

Welcome to Fresno State's 2023-24 General Catalog

The General Catalog contains information about academic programs, degree requirements, courses, policies, and regulations. See catalog archives for catalog years 2022-23 and prior. Students must follow the catalog requirements as specified in their catalog year. See choice of catalog for information on catalog year rights.



Academic Regulations

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

Academic Standing

Good Standing. An undergraduate and post-baccalaureate student must maintain a C average (2.00 grade point average) to be in good academic standing in their campus grade point average (all coursework taken at Fresno State) and cumulative (total) grade point average (all coursework attempted at all colleges).

A graduate student (master or doctoral degree program) must maintain a B average (3.0 grade point average) to be in good academic standing in their campus grade point average (all coursework taken at Fresno State) and cumulative grade point average (all coursework attempted at all colleges).

All students whose campus or cumulative grade point average falls below the satisfactory academic standing level is placed on probation or disqualification. For more information, see the Disqualification section.

Probation. An undergraduate or postbaccalaureate student shall be placed on academic probation if their:

1. Campus grade point average (GPA) based on all units attempted at Fresno State is 1.99 or below.
2. Cumulative grade point average (GPA) based on all units attempted at all colleges is 1.99 or below.

Probation is defined as one of the following academic standings: Probation, Probation: Disqualification Range or Readmitted on Probation.

Students remain on academic probation until both campus and cumulative grade point average 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 after 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 Division of Research and Graduate Studies.

A graduate 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. After being placed on academic probation, if a student's campus or cumulative GPA remains at 1.99 or below they may be academically disqualified based on the criteria below:

- 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/postbaccalaureate (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

Undergraduate students who are on probation and whose campus or total GPA is below the standards listed above will be Academically Disqualified at the end of Spring semester. A Spring disqualification review only applies to undergraduate students. Postbaccalaureate and graduate students will need to adhere to program requirements.

Graduate Studies Regulations Graduate students are disqualified if their cumulative or campus grade point average falls below 2.0.

A graduate student 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.

For more regarding academic notice, please visit the following website:

- Undergraduate: <https://studentaffairs.fresnostate.edu/advising/students/probation-disqualification/index.html>
- Graduate: <https://academics.fresnostate.edu/drgrs/gradstudies/requirements/requiredgpa.html>

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, Doctor 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 (DPT.) in Physical Therapy, and a Doctor of Nursing Practice (DNP). 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.

Choice of Catalog

Election of Regulations. An undergraduate student or postbaccalaureate student pursuing a second bachelor's degree 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.

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

Once a student establishes catalog rights in the CSU or California Community College system, he or she may attend any accredited college or university (outside the CSU and California Community College system) or take a planned educational leave for no more than two years and maintain his or her continuous attendance status. (See 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.)

Computer Requirement

At Fresno State, computers and communications links to remote resources are recognized as being integral to the education and research experience. Every student is required to have his/her own computer or other personal access to a device with all the recommended software. The recommended standards for devices and software, which may vary by academic major, are updated periodically and are available from the Kennel Bookstore. The university provides students access to some software free of charge or at reduced rates. Faculty will presume that students have 24-hour access to a device and the necessary communication links to the University's information resources. Fresno State maintains a limited number of workstations in various labs and laptops for checkout to facilitate this access. It also provides a Wi-Fi network on campus for access to the Internet.

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 comprising 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:

- **Open University Enrollment.** Nonmatriculated students may enroll in regular California State University, Fresno classes through Continuing and Global Education.
- **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 registration section for details.)
- **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 course load in the combined enrollment program may not exceed the maximum unit load restrictions for California State University, Fresno. (See the registration section for details.)

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

Degree Progress Report (DPR). The DPR is a tool used by students and advisors to guide the advising process. Students may print their own DPR through self-service in the student portal, My Fresno State. The DPR shows the student's progress in a chosen degree program, incorporating courses completed at California State University, Fresno and transfer institutions. The DPR illustrates 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 attempted 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 a maximum of two 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. Minors will not appear on a diploma.

My Degree Plan. My Degree Plan is an interactive planning tool students may use to plan courses for future semesters. It allows students to validate their plan against the DPR or Roadmap to ensure efficient planning towards meeting graduation requirements.

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. The option in a major will appear on a diploma.

Emphasis. Set of required courses that focuses on a specific area within a major. An emphasis or area of emphasis does not appear on the diploma or the official transcript.

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.

Roadmap. The Roadmap is a planning tool designed to assist students and advisors in developing a course scheduling strategy to maximize potential. Roadmaps provide students with the best recommended sequence of courses for success, and ultimately, degree completion.

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

Dispute Resolution

A student-related dispute could arise out of a decision or action in the course of official duty by a member of the faculty, staff, or administration of California State University, Fresno. The decision or action could be alleged as discriminatory, contrary to accepted academic relationships and procedures, or restrictive of the rights of any student of the university to fair treatment. The purpose of the dispute resolution process is to provide a mechanism for students to have a third party review the situation.

The student must first make a good faith effort to resolve the matter informally by talking directly with the individual concerned, the individual's direct supervisor or department chair, and the director of the unit or college/school dean. If resolution is not effected through the informal procedures, for assistance students should contact the Office of the Vice President for Student Affairs and Enrollment Management.

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 Research and Graduate Studies, should be filed prior to the semester in which the student desires enrollment in 200-level course(s).

Explanation of Grades

Audit Status (AU). Auditors must submit the Audit Grading Option Form no later than the 20th day of instruction in which you are taking the course. Audit grading basis option IS NOT available through the Student Portal registration system. Review the information and regulations for Audit below before completing the required form.

Enrollment as an auditor is subject to permission of the instructor. 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 (20th day of instruction) in that term. A student who is enrolled for credit may not change to audit status 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.

Audit courses do not give students any degree credit and are not used in a master's program.

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:

- **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.
- **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.
- **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.

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 agreement 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 outlined in the agreement 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 University 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 is in progress but that assignment of a final grade must await completion of additional work. Work is to be completed within one year except for graduate degree theses. 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 re-register 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.

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. (0grade 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-levelcourses. Replaces I grade in courses where CR/NC grading is used if required work is not completed within required time. (0grade points per unit; no units allowed for the degree.)

W - Withdrawal after the 19th day 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) did not complete 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.

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 concurrently 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 reminded that 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.)

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 letter-graded 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.

* Excludes CR/NC and remedial/college readiness coursework.

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. Topics courses with the same title and description are not repeatable for additional credit.

Undergraduate students may not register to take a course more than two times until they complete the required paperwork, meet with a major advisor, 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.

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.

Grade forgiveness shall not be applicable to courses for which the original grade was the result of a finding of academic dishonesty (excerpt from EO 1037).

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 eligible for grade substitution by repeating a regular California State University, Fresno course determined to be equivalent and articulated. 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 teaching credential, or (3) 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 advisor, 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, contact the Office of the University Registrar by the last day of the semester.

For further information, contact the Student Services Center 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 Undergraduate Degree Evaluations, 559.278.4076.

Leave of Absence. A leave of absence is defined as a planned interruption or pause in a student's regular academic attendance. In effect, the student temporarily ceases formal studies at California State University, Fresno, while pursuing other activities that may assist in clarifying and/or contributing to educational goals. It may also involve a military or medical leave. The intent of the policy is to make it possible for a student to suspend his or her academic work, leave the campus without jeopardizing rights and privileges, and later resume studies with a minimum of procedural difficulty.

A student who is approved for a Leave of Absence will be considered a continuing Fresno State student and will maintain "catalog rights". If the student registers at Fresno State at the conclusion of the granted leave, (an) application for readmission will not be required. A planned educational leave for graduate students must be recommended by the Division of Research and Graduate Studies, Frank W. Thomas Building, Room 130 and requires an additional signature of your Graduate Program Coordinator.

The following regulations apply to a leave of absence:

1. Eligible students must have completed at least one semester at Fresno State and be in good academic standing.
2. Leave of Absences are granted for two to four consecutive semesters only. Exception: Military active duty orders are extended for the duration of the orders as noted.
3. In addition to recommendation by a faculty advisor and a chair, international students must be recommended by an advisor of international student services and programs, and educational opportunity program students by an EOP counselor. If you are requesting a military leave, an additional signature is required from the Veterans Resource Center.
4. Petitions for leave of absence 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 dismissed due to academic deficiencies or disciplinary actions are not eligible for leaves of absence.
6. 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 leave of absence 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 Leave of Absence should obtain an online form from the Registrar Office website. **Please review the form for required documentation before submission.** Students will be notified by Fresno State email with a decision and may be asked for additional information.

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 Research and 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 Office of the University Registrar.

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.

Readmission of Disqualified Students, Undergraduate and Graduate

Undergraduate. Disqualified students who have not attended for more than two semesters must submit an application for readmission to the university and the appropriate readmission petition. Readmission occurs for fall semesters only. Prospective students can apply through CalState Apply between October 1 - January 17 for the following fall semester. Contact **559.278.2261** 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/academics/gradstudies. Disqualified graduate (or advanced certificate) students who petition for readmission AFTER having been out of attendance for a semester or more, must also reapply for admission through Cal State Apply. 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 Division of Research and Graduate Studies to be readmitted to the university.

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 average falls 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.

Student Absences

Students are expected to attend class and should maintain contact with their faculty members regarding any absences. Individual faculty members should be contacted when there are extended absences (more than one week) due to illness, death in the immediate family, or other situations. In urgent or extraordinary emergencies that preclude direct contact with individual faculty, students may contact the Office of the Vice President for Student Affairs and Enrollment Management at 559.278.2541. Any make-up work or missed assignments remain the responsibility of the student.

Transcript Evaluation

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

Transfer students who accept their admission offer and register for a mandatory Dog Days session should receive an email with instructions on how to access their computerized evaluation (DPR - Degree Progress Report). The DPR provides detail regarding the acceptance and processing of transfer coursework and also indicates remaining degree requirements. It is recommended that students access their DPR through self-service at least once a semester and review it with their academic advisor. A degree evaluation is completed during the semester a student files for graduation. (**See Graduation and Commencement.**)

All official transcripts submitted by the student either in support of an application for admission or for degree completion become the property of California State University, Fresno and are not returned to the student. Students are strongly encouraged to obtain duplicate copies of their records from high school and colleges previously attended for their personal file.

Transcripts and Grade Reports

Transcript of Record. Students may request transcripts of their academic records at California State University, Fresno. Transcripts are not provided to students with administrative holds as determined by university officials. **Transcripts of records from other institutions submitted to California State University, Fresno are not returned to students.** For more information on how to order, visit www.fresnostate.edu/transcripts.

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

Academic Placement

Advanced Placement (AP)

The Advanced Placement Program of the College Entrance Examination Board permits 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.

Credit is applied to undergraduate degrees for the 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 students must request electronic scores to be submitted to Fresno State directly from the College Board.

Credits earned through advanced placement are not included among the maximum of 30 units of credit for prior learning (external examinations) that may be credited toward a bachelor's degree. Students may not receive credit for the equivalent course for which they already have received credit from an AP examination. Please visit the External Exam Credit website for a full list of AP exam articulation.

For more information, contact Admissions at 559.278.2261.

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.

College Level Examination Program (CLEP)

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 or learning. 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.

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. Effective with exams taken spring 2018, some exam credit is applied to the General Education requirements as detailed on the External Exam Credit website. Not all CLEP examinations are acceptable under CSU system policy. It is the responsibility of the student to check with the appropriate department to determine whether it accepts CLEP credit to meet any degree requirement. This should be done prior to taking the CLEP exam. The CLEP exam articulation table can be found on the External Exam Credit website.

Credit by Examination (CBE)

Credit by examination is designed to encourage matriculated students to seek college credit in courses in which they have competence through prior learning or experience, outside the usual academic processes. This permits students to accelerate their progress to a degree. Credit earned by examination does not meet the residence requirement of the university and is not available for graduate level courses. For further information, consult the department where the course is offered.

Graduate Students: Credit by examination for coursework may be used to fulfill prerequisites and/or toward the determination of admission eligibility and may not be applied toward the total units required for a master's degree.

All students must meet term deadlines for CBE credit. For more information, review the Application for Credit by Examination form on the Office of the University Registrar website.

Credit for Military Service Coursework

Lower-division elective credit is given for recruit training for initial entry into the service and clears G.E. Area E. Credit given may vary depending on the branch of service. At the student's request, the Joint Services Transcript (JST) or Community College of the Air Force (CCAF) transcript can be reviewed for American Council on Education (ACE) recommendations for non-collegiate instruction units. A maximum of 30 units is allowed for Credit for Prior Learning, which includes Military credit. If interested, students should visit the Veterans Resource Center and meet with an Advisor to complete the Request for Evaluation of Military Credit form. You can find more information regarding the evaluation of military credit on the Fresno State Military Credit website.

DANTES (Defense Activity for Non-Traditional Educational Support) maintains the educational records of the servicemen and women who have completed DSSTs (DANTES 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 DSST scores as recommended by DANTES. Equivalency for DSST 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 credit is considered Credit for Prior Learning (CPL) at Fresno State with a maximum of 30 semester units. If your CLEP exam was militarily funded, the scores for all CLEP and DSST exams are automatically reported to the JST. If your CLEP exam was not funded through the military, you can request a transcript from College Board.

Credit for Non-Collegiate Instruction

This university grants undergraduate degree credit appropriate to the baccalaureate degree for successful completion of non-collegiate 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 *A Guide to the Evaluation of Educational Experience in the Armed Services* and the *National Guide to Educational Credit for Training Programs*.

Early Start Program (ESP)

The goal of the Early Start Program (ESP) is to better prepare students in written composition and mathematics/quantitative reasoning before the fall term of freshman year, improving students' chances of successful completion of a baccalaureate degree.

- If required to participate in ESP, as determined by multiple measures, students will begin in the summer before the start of the freshman year.
- For general information about ESP including fees and course listings, visit csustudentsuccess.org/early-start-overview. Students are encouraged to visit the campus website for ESP information once admitted.
- Eligible financial aid applicants with an Estimated Family Contribution (EFC) of \$6,000 or less will be eligible for waiver of the per unit ESP fee. For more information on assessments, placements and the Early Start Program, please visit www.csustudentsuccess.org.

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). Students who utilize Military Benefits need to speak to the Veterans Resource Center before enrolling in an Independent Study course.

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.

International Baccalaureate (IB)

Credit is granted for International Baccalaureate Higher Level examinations passed with a score of 4 or higher (some exams require a score of 5 or higher). International Baccalaureate examinations taken spring 2018, or later, will be applied to general education areas as noted on the External Exam Credit website. Contact Admissions at 559.278.2261 for more information.

Placement Measures for First-Year GE Written Communication and Mathematics/Quantitative Reasoning Courses

Freshmen skills assessment and placement for General Education written communication and mathematics/quantitative reasoning shall be based on systemwide skills assessment standards that include the Early Assessment Program/ Smarter Balanced Achievement Levels, ACT scores and/or SAT scores, high school coursework, high school GPA and math GPA.

Skills assessments are not a condition for admission to the CSU; they are a condition of enrollment.

These skills assessments are designed to inform entering freshmen of placement in appropriate baccalaureate-level courses based on their skills and needs.

First-time freshmen in need of support as determined by the skills assessment will be placed in supported instruction. Supported instruction is designed to assist students in credit bearing courses. Students may also be required to participate in the Supportive Pathways for First-Year Students Program.

The Supportive Pathways for First-Year Students Programs offers pathways and academic and social support that align with each incoming student's needs. The programs' goal is to ensure that first time students successfully complete the General Education (GE) written communication (A2) and math/quantitative reasoning (B4) requirements within their first year.

Assessments and Placement for GE Written Communication

Has Fulfilled the GE Subarea A2 English Requirement

The student has met the requirement via completion of one of the following:

Advanced Placement (AP) Test

- 3 or above: AP Language and Composition
- 3 or above: AP Composition and Literature

College Transfer Coursework

- Completed approved college course that satisfies CSU GE Area A2 (written communication) with a grade of C- or better

Placement in a GE Subarea A2 English Course

The student has met examination standards and/or multiple measures- informed standards via one of the criteria below:

English CAASPP/EAP Test

- Standard Exceeded
- Standard met and completed 12th grade approved year-long English course (CSU ERWC, AP, Weighted Honors English) with grade of C- or better

SAT Evidence-Based Reading and Writing Test:

- 550 or above
- 510 - 540 and completed 12th grade approved year-long English course (CSU ERWC, AP, Weighted Honors English) with grade of C- or better English

ACT Test

- 22 or higher
- 19-21 and completed 12th grade approved year-long English course (CSU ERWC, AP, Weighted Honors English) with grade of C- or better

High School Courses and GPA

- Weighted GPA 3.3 or above
- GPA 3.0 or above and completed approved 12 grade year-long English course (AP, CSU ERWC, Weighted Honors English)
- GPA 3.0 or above and completed Honors English
- GPA 3.0 or above and 5 or more years of high school English

Placement in a Supported GE Subarea A2 English Course

The student has met examination standards and/or multiple measures- informed standards via one of the criteria below:

SAT Evidence-Based Reading and Writing Test:

- 510 - 540 and 4 or more years of high school English

ACT Test

- 19-21 and 4 or more years of high school English

High School Courses and GPA

- Weighted GPA 3.0 or above and 4 or more years of high school English

Placement in a Supported GE Subarea A2 English Course and Participation in the Supportive Pathways for First-Year Students Program

Based on multiple measures evaluation, student needs additional academic support including participation in the Supportive Pathways for First Year Students Program. Visit csustudentsuccess.org to learn about the Program.

Assessments and Placement for GE Mathematics/Quantitative Reasoning

Non-Math Intensive Majors (Algebra and Statistics Disciplines, Non-STEM and Undecided Majors) Has Fulfilled the GE Subarea B4 Math/Quantitative Reasoning Requirement

The student has met the requirement via completion of one of the following:

Advanced Placement (AP) Test

- 3 or above: Calculus AB
- 3 or above on AP Calculus BC
- 3 or above on AP Statistics
- 3 or above on AP Computer Science Principles

International Baccalaureate (IB) Test

- 4 or above on Math Higher Level (HL)

College Level Examination Program (CLEP)

- 50 or above on: Calculus, College Algebra, College Algebra-Trigonometry, Pre-Calculus or Trigonometry

College Transfer Coursework

- Completed math/quantitative reasoning college course with a C- or better that satisfies CSU GE Area B4

Placement in a GE Sub-area B4 Math/Quantitative Reasoning Requirement

The student has met examination standards and/or multiple measures-informed standards via one of the following criteria:

CAASPP/EAP Math Exam

- Standard Exceeded
- Standard met and completed 12th grade approved year-long math course beyond Algebra 2 with a C- or better
- Standard met and 4 or more years of high school math or quantitative reasoning

SAT Math Test

- 570 or above
- 520 - 560 and completed 12th grade approved year-long math course beyond Algebra 2 with a C- or better

ACT Math Test

- 23 or above
- 20-22 and completed 12th grade approved year-long math course beyond Algebra 2 with a C- or better

High School Courses and GPA

- Weighted math GPA 3.0 or above and completed 12th grade approved year-long math course beyond Algebra 2 with a C- or better
- Weighted math GPA 3.0 or above and 5 or more years of high school math or quantitative reasoning
- Weighted high school GPA 3.7 or above
- Weighted high school GPA 3.5 or above and 4 or more years of high school math or quantitative reasoning

Placement in a Supported GE Sub-area B4 Math/ Quantitative Reasoning Requirement

The student has met examination standards and/or multiple measures- informed standards via one of the criteria below:

High School GPA

- Weighted math GPA 3.3 or above
- Weighted high school GPA 3.0 or above

Placement in a Supported GE Sub-area B4 Math/ Quantitative Reasoning Requirement and Participation in the Supportive Pathways for First-Year Students Program Required

Based on multiple measures evaluation, student needs additional academic support including participation in the Supportive Pathways for First-Year Students Program. Visit csustudentsuccess.org to learn about this program.

Assessments and Placement for GE Mathematics/Quantitative Reasoning: Pre-STEM/STEM and Other Math- Intensive Majors

Has Fulfilled the GE Sub-area B4 Math/Quantitative Reasoning Requirement

The student has met the requirement via completion of one of the following:

Advanced Placement (AP) Test

- 3 or above on AP Calculus AB
- 3 or above on AP Calculus BC
- 3 or above on AP Statistics
- 3 or above on AP Computer Science Principles

International Baccalaureate (IB) Test

- 4 or above on Math Higher Level (HL)

College Level Examination Program (CLEP)

- 50 or above on: Calculus, College Algebra, College Algebra-Trigonometry, Pre-Calculus or Trigonometry

College Transfer Coursework

- Completed math/quantitative reasoning college course with a C- or better that satisfies CSU GE Area B4

Placement in a GE Subarea B4 Math/Quantitative Reasoning Requirement

The student has met examination standards and/or multiple measures- informed standards via one of the criteria below:

CAASPP/EAP Math Exam

- Standard Exceeded
- Standard met and completed 12th grade approved year-long math course beyond Algebra 2 with a C- or better

SAT Math Test

- 570 or above
- 520 - 560 and completed 12th grade approved year-long math course beyond Algebra 2 with a C- or better

ACT Math Test

- 23 or above
- 20-22 and completed 12th grade approved year-long math course beyond Algebra 2 with a C- or better

High School Courses and GPA

- Weighted math GPA 3.5 or above and completed 12th grade approved year-long math course beyond Algebra 2 with a grade of C- or better
- Weighted math GPA 3.5 or above and 5 or more years of high school math or quantitative reasoning
- Weighted high school GPA 3.7 or above

Placement in a Supported GE Subarea B4 Math/ Quantitative Reasoning Requirement

The student has met examination standards and/or multiple measures- informed standards via the criteria below:

High School Math GPA

- Weighted math GPA 3.3 or above

Placement in a Supported GE Subarea B4 Math/ Quantitative Reasoning Requirement and Participation in the Supportive Pathways for First-Year Students Program Required

Based on multiple measures evaluation, student needs additional academic support including participation in the Early Start Program. Visit the Early Start website to learn about the Early Start Program.

The goal of the Supportive Pathways for First-Year Students Program (SPFY) is to

- Ensure that first-time students successfully complete the General Education (GE) written communication (A2) and math/quantitative reasoning (B4) requirements within their first year
- Better prepare students in written composition and mathematics/quantitative reasoning before the fall term of freshman year, improving students' chances of successful completion of a baccalaureate degree.
- For general information about Supportive Pathways for First-Year Students Program (SPFY), visit csustudentsuccess.org/supportive-pathways. Students are encouraged to visit the university website for SPFY information once admitted.
- Eligible financial aid applicants with an Estimated Family Contribution (EFC) of \$6,000 or less will be eligible for waiver of the per unit SPFY fee. For more information on assessments, placements and the Supportive Pathways for First Year Students Program, please visit www.csustudentsuccess.org.

Admissions

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 California State University (CSU) website.

All CSU applications must be submitted online on the Cal State Apply website. An acknowledgment will be sent to the applicant when the online application has been submitted.

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, Article 1.1, 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.

Appeal of Admission Decision

Section 89030.7 of the California Education Code requires that the CSU establish specific requirements for appeal procedures for a denial of admission. Each CSU must publish appeal procedures for applicants denied admission to the University. The procedure is limited to addressing university 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 university 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 university website. You can visit the Admissions and Recruitment website studentaffairs.fresnostate.edu/are to view appeal process

Application Filing Periods

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

- 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. Most universities do not admit students to summer term.

Application Acknowledgment. Applicants should expect to receive an acknowledgment from the universities 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 university.

Hardship Petitions. The university has established procedures for consideration of qualified applicants who would be faced with extreme hardship if not admitted. Petitioners should write to the university Admission Office regarding specific policies governing hardship admission. See Appeal of Admission Decision section.

Fresno State only accepts undergraduate applications for the fall and spring semesters. You can visit the Admissions and Recruitment website for the latest updates and deadlines.

Determination of Residency for Tuition Purposes

University requirements for establishing residency for tuition purposes are independent from requirements for establishing residency for other purposes, 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 qualifies to pay university fees at the in-state or out-of-state rate. A resident for tuition purposes is someone who meets the requirements set forth in the Uniform Student Residency Requirements. These laws governing residency for tuition purposes at the California State University are California Education Code sections 68000-68086, 68120-68133, and 89705-89707.5, and California Code of Regulations, Title 5, Subchapter 5, Article 4, sections 41900- 41915. This material can be viewed by accessing the California State University Office of General counsel website.

Each CSUs Admissions Office is responsible for determining the residency status of that university's new and returning students based, as applicable, on the student's Application for Admission, Residency Questionnaire, and, as necessary, other information the student furnishes. A student who fails to provide sufficient information to establish resident status will be classified a nonresident.

Residency Determination Dates

Semester Term CSUs

- Fall - September 20
- Spring - January 25
- Summer - June 1

CalState TEACH

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

Residency Requirements

Initial Determination: Eligible Immigration Status, Physical Presence and Intent

A student seeking to pay in-state tuition at a California State University (CSU) as a first-time freshman, transfer, or as a post-baccalaureate/graduate student must have an eligible immigration status to establish residency (see **Immigration Information**), meet physical presence by the Residence Determination Date, and demonstrate intent to indefinitely remain in the State of California for more than one year immediately preceding the Residence Determination Date. If the student is under the age of 19 (with limited exceptions), the student's residence status is derived from that of the parent or from that of the legal guardian.

Requirements for Residency for Tuition Purposes

Physical Presence: The student or parent/guardian must be physically present in California for more than one year immediately preceding the Residence Determination Date in which enrollment is contemplated. For example, if a student plans to attend the CSU for the Fall 2022 academic term, and the Residence Determination Date for that term is September 20, 2022, the student must establish physical presence in California no later than September 19, 2021.

Intent: California law stipulates the burden of proof rests with the student, and merely living in California for a year does not support a claim for residency for tuition purposes. The student, or in some cases a parent or legal guardian, must demonstrate intent to remain indefinitely in the state for more than one year immediately preceding the Residence Determination Date (RDD), and sever all residential ties with the former state or country of residence. If the student is under the age of 19, the student's residence status is derived from that of the parent or legal guardian unless an exception applies. There must be sufficient documentation to demonstrate that intent was established more than one year (a minimum of one year and one day) before the RDD.

Documents must include the student's name, the student's California address, and a date at least one year and one day prior or on the RDD for the term. For students under the age of 19, documents must be in the parent or legal guardian's name unless an exception applies. Also, a parent or legal guardian's immigration status does not preclude a student from establishing residency, therefore, the parent or legal guardian is not required to provide any immigration documents to demonstrate intent.

Evidence demonstrating intent to remain in the State of California indefinitely may vary from case to case, but will include, and is not necessarily limited to, the absence of residential ties to any other state, California voter registration and history of actually 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.

Immigration Information: A student seeking to pay in-state tuition at a California State University (CSU) as a first-time freshman, transfer, or as a post-baccalaureate/graduate student must have an eligible immigration status to establish residency. Therefore, the student must be a United States citizen, a permanent resident (Green Card holder), or hold an eligible visa status (see list). If a student does not qualify as a California resident, the student may be eligible for certain exceptions and exemptions.

Nonimmigrant Statuses and Other Categories that are Eligible to Establish California Residency for Tuition Purposes

The Immigration and Nationality Act allows individuals in certain nonimmigrant statuses to establish permanent residency in the United States. Therefore, they are entitled to establish California residency for tuition purposes. For a complete list of eligible visas and other eligible categories, review the nonimmigrant list. Students must hold an eligible visa status at least one year before the Residence Determination Date (RDD) to be eligible to establish California residency for tuition purposes.

Students in the category of Deferred Action for Childhood Arrivals (DACA) or Temporary Protected Status (TPS) are also eligible to establish residency for tuition purposes. Also, students who are adjusting their immigration status, such as asylum, may qualify for residency depending on where they are in the application process.

Most nonimmigrant visa holders, such as an F-1 or J-1 visa holder, are not eligible to establish California residency for tuition purposes. Students with a visa or without an immigration status should contact the university Admissions Office.

Exceptions

Exceptions to the general residency requirements are contained in California Education Code sections 68070-68086 and California Code of Regulations, Title 5, Subchapter 5, Article 4, sections 41906- 41906.6, 41910. Whether an exception applies to a particular student can only be determined after the submission of an application for admission and, as necessary, additional supporting documentation. Because neither the university nor the Chancellor's Office staff may give legal advice, applicants are strongly urged to review the material for themselves and consult with a legal advisor.

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. Students utilizing the Post 9/11, Veterans Readiness & Employment benefits and effective August 1, 2022 students/dependents under Chapter 35--VA Certificates of Eligibility and/or DD 214's are required.
8. 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.
9. 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.
10. Certain credentialed, full-time employees of California school districts and students who have attended high school in California and graduated or attained the equivalent.
11. 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.
12. 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.
13. 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.
14. 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.
15. 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.

Reclassification - Financial Independence (only applies to continuing students)

A student classified as a nonresident for a prior term may seek reclassification in any subsequent term; however, reclassification requires that, in addition to satisfying the requirements of physical presence and intent to remain indefinitely in the state, the student must also satisfy the requirement of **financial independence** as outlined in Title 5 CCR § 41905.5. To do so, the student must contact the appropriate person in the university admissions office and complete a Residency Questionnaire Form and provide supporting documents.

41905.5 Residence Reclassification - Financial Independence Requirement

- Any nonresident student requiring reclassification to resident for tuition purposes must demonstrate financial independence.
- Student has not and will not be claimed as an exemption for state and federal tax purposes by their parent in the calendar year the reclassification application is made and in any of the three calendar years prior to the reclassification application.
- Student has not and will not receive more than seven hundred fifty dollars (\$750) per year in financial assistance from their parent in the calendar year the reclassification application is made and in any of the three calendar years prior to the reclassification application.
- Student has not lived and will not live for more than six weeks in the home of their parent during the calendar year the reclassification application is made and in any of the three calendar years prior to the reclassification application.
- Note: Students who receive a government scholarship and/or financial assistance should be viewed the same as state and federal financial aid, and athletics grants-in-aid, and should not be counted as parental support.
- Effective Fall 2020 academic term, if the student meets at least one of the following criteria, the student does not have to meet the financial independence requirement. Student must provide the university admissions office supporting documents (e.g. state income tax returns, court documents, marriage certificate, military order form) that demonstrate they meet the criteria.
 - Dependent on a parent who has California residency for more than one year immediately preceding the RDD;
 - Enrolled in a graduate or postbaccalaureate program, regardless of age;
 - Turned 24 years of age by the RDD;
 - Married or registered domestic partner as of the RDD;
 - Active duty member serving in the U.S. Armed Forces;
 - Veteran of the U.S. Armed Forces;
 - Legal dependent other than spouse or registered domestic partner;
 - Former ward of the court, foster youth or both parents are deceased;
 - Declared by a court to be an emancipated minor; or
 - Unaccompanied youth who is homeless or at risk of becoming homeless.

Residency Appeals

A student classified as a nonresident may appeal a final university decision within 30 days of notification by the university. Appeals will be accepted only if at least one of the following criteria applies:

1. The decision was based on:
 - a. A significant error of fact by the university;
 - b. A significant procedural error by the university; or
 - c. An incorrect application of the law which, if corrected would require that the student be reclassified as a California resident; and/or
 - d. Significant new information, not previously known or available to the student, became available after the date of the university decision classifying the student as a nonresident and based on the new information, the classification as a nonresident is incorrect.

Instructions to submit an appeal and additional information can be found on the California Residency for Tuition Purposes website.

Appeals via email, fax and U.S. mail will not be accepted. A student with a documented disability who is requesting an accommodation to submit an appeal through the California State University (CSU) website should contact Student Affairs and Enrollment Management at residencyappeals@calstate.edu.

The office of the Chancellor will either decide the appeal or send the matter back to the university for further review.

A student incorrectly classified as a resident or incorrectly granted an exception from nonresident tuition is subject to reclassification as a nonresident or withdrawal of the exception and subject to payment of nonresident tuition in arrears. If

incorrect classification results from false or concealed facts, the student may also be subject to discipline pursuant to Section 41301 of Title 5 of the California Code of Regulations. A student previously classified as a resident or previously granted an exception is required to immediately notify the Admissions Office if the student has reason to believe that the student no longer qualifies as a resident or no longer meets the criteria for an exception.

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.

Graduate and Postbaccalaureate Admission Requirements

Graduate and post-baccalaureate applicants may apply for a degree objective, a credential or certificate objective, or where approved, may have no program 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 post-baccalaureate studies at a CSU are in accordance with university regulations as well as Title 5, Chapter 1, Subchapter 3 of the California Code of Regulations.
- Specifically, a student shall at the time of enrollment:
 1. Have completed a four-year college course of study and hold an acceptable baccalaureate degree from an institution accredited by a regional accrediting association, or shall have completed equivalent academic preparation as determined by appropriate university 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 university authorities may prescribe. In unusual circumstances, a university may make exceptions to these criteria.
- Students who meet the minimum requirements for graduate and post-baccalaureate studies may be considered for admission in one of the four following categories:
 1. 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 university; or
 2. Graduate Conditionally Classified - Applicants may be admitted to a graduate degree program in this category if, in the opinion of appropriate university authority, deficiencies may be remedied by additional preparation; or
 3. Post-Baccalaureate Classified (e.g. admission to an education credential program) - Persons wishing to enroll in a credential or certificate program will be required to satisfy additional professional, personal, scholastic, and other standards, including qualifying examinations, prescribed by the university; or
 4. Post-Baccalaureate Unclassified - To enroll in undergraduate courses as preparation for advanced degree programs or to enroll in graduate courses for professional or personal growth, applicants must be admitted as post-baccalaureate unclassified students. By meeting the general requirements, applicants are eligible for admission as post-baccalaureate unclassified students. Admission in this status does not constitute admission to, or assurance of consideration for admission to, any graduate degree or credential program. (Most CSUs do not offer admission to unclassified postbaccalaureate students).

(These and other CSU admission requirements are subject to change as policies are revised and laws are amended. The CSU website and the CSU admission portal are good sources for the most up-to-date information.)

For additional information, see the Division of Research and Graduate Studies.

Graduate and 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 80 on the Test of English as a Foreign Language (TOEFL). Some programs require a higher score. Several CSUs 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 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.

Graduate and Postbaccalaureate Application Procedures

All graduate and post-baccalaureate applicants (i.e., doctorate, 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 on the Cal State Apply website.

Applicants seeking a second bachelor's degree should submit the graduate application for admission unless specifically requested to do otherwise. Applicants who completed undergraduate degree requirements in the preceding term are also required to complete and submit an application and the \$70 nonrefundable application fee. To be assured of initial consideration by more than one CSU, it is necessary to submit separate applications (including fees) to each. All CSU applications must be submitted online via the Cal State Apply website. An acknowledgment will be sent to the applicant when the online application has been submitted.

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.

For additional information, see the Division of Research and Graduate Studies.

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 university which they are offered; others are impacted only at a few universities.

Candidates for admission must meet all of the university's specified supplementary admission criteria if applying to an impacted program or university.

The CSU will announce during the fall filing period those CSUs or programs that are impacted. Detailed information on university and program impaction is available on the Impaction at the CSU website.

Each university will communicate supplementary admission criteria for all impacted programs to high schools and community colleges in their application service area and will disseminate this information to the public through appropriate media. This

information will also be published on Fresno State campus website and made available at <http://fresnostate.edu/studentaffairs/are/>.

Applicants must file applications for admission to an impacted program during the initial filing period. Applicants who wish to be considered for impacted programs at more than one CSU should file an application at each university for which they seek admission consideration.

Fresno State is impacted and only accepts undergraduate applications between October and November for fall terms. If the campus is open for spring, applications are accepted August prior to the spring term. Please check www.csufresno.edu/are for the latest updates.

Supplementary Admission Criteria. Each university with impacted programs or class-level admission categories uses supplementary admission criteria in screening applicants. Supplementary criteria may include rank-ordering of freshman applicants based on the combination of students "A-G" GPA and supplemental factors or rank-ordering of transfer applicants based on verification of the Associate in Arts for Transfer (AA-T) or Associate in Science Transfer (AS-T) degrees, the overall transfer grade point average (GPA), completion of specified prerequisite courses and a combination of campus-developed criteria. Applicants for freshman admission to impacted universities or programs may need to have a higher "a-g" GPA. In no case will standardized test scores be utilized in making freshman admission decisions.

The supplementary admission criteria used by individual CSUs to screen applicants are made available by the universities to all applicants seeking admission to an impacted program.

International (Foreign) Students

The CSU must assess the academic preparation of international students. "International students" are those who hold U.S.F or J student visas. They may be degree-seeking applicants, exchange visitors, or other non-immigrant classifications. The CSU has separate requirements for the admission of international students. Academic performance and English proficiency are important admission considerations.

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 international students requesting admission for undergraduate or graduate study at California State University, Fresno, must submit the following:

- an international application
- a \$70 non-refundable application fee
- copy of approved English language proficiency test per International Office website
- official original or certified true copies of academic documents and other school records in the native language and in English translation
- graduate applicants also need to submit GRE (or GMAT) scores and letters of recommendation if required by the program*

All documents submitted become the property of California State University, Fresno and will not be returned. They will be imaged in the university's database.

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 - June 1*

Spring Semester - October 1

* Graduate programs have various deadlines for international applicants. Graduate applications will be reviewed by the individual academic departments to determine eligibility for the requested graduate program. Please check for all program deadlines and requirements (including English language), at:
(<http://www.fresnostate.edu/cge/international/index.html/future/graduate.html>).

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. Other English proficiency exams such as IELTS and PTE Academic are accepted in lieu of TOEFL. Further information may be obtained from the International Office at 278.2782.

Conditional Admission. An undergraduate student whose academic qualifications are acceptable, but who has not achieved an acceptable English language 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 English language score from an acceptable test listed on our website.

For graduate applicants whose academic qualifications are acceptable, but who has not achieved an acceptable English language score, may be granted a conditional admission subject to major department review, and approval.

Insurance Requirement. Effective August 1, 1995 as a condition of receiving an I-20 Form or DS-2019 Form, all F-1 and J-1 visa applicants must agree to obtain and maintain health insurance as a condition of registration and continued enrollment in the California State University. Such insurance must be in amounts as specified by the United States Information Agency (USIA) and NAFSA: Association of International Educators. The campus president or designee shall determine which insurance policies meet these criteria. All international students enrolled at California State University, Fresno are mandated to be automatically enrolled in health insurance. Further information may be obtained from the International Office at 559.278.2782.

Returning Students

Applicants who seek readmission after an absence of two consecutive semesters or more must file an application for admission.
<https://studentaffairs.fresnostate.edu/are/returning.html>

Applicants absent one semester are not required to reapply. Students on an approved planned educational leave are not required to file an application for admission. (**See Planned Educational Leave**). Students returning from active duty military orders please contact the Veterans Resource Center at fsveterans@mail.fresno.edu.

Undergraduate Admission Requirements

Freshmen Requirements. Generally, applicants will qualify for consideration for first-time freshman admission if they meet the following requirements:

1. Have graduated from high school (earning a high school diploma), have earned a Certificate of General Education Development (GED) or have passed the California High School Proficiency Examination (CHSPE)
2. Complete the 15-unit comprehensive "a-g" pattern of college preparatory courses;
3. Have completed, with grades of C- or better, each of the courses in the comprehensive pattern of college preparatory subject requirements also known as the "a-g" pattern (see "Subject Requirements"); and
 - a. The CSU will accept "Credit" or "Pass" grades to satisfy "a-g" requirements completed during Winter, Spring, Summer or Fall 2020 terms and during Winter, Spring, Summer, or Fall 2021 terms. The CSU expects and assumes that high school Pass (Credit) grades will represent work completed at the C- or higher level. As of Fall 2021 and forward, grades are expected for courses.
4. Earn a qualifying "a-g" grade point average (GPA) as described below.
 - a. California residents and graduates of California high schools will be eligible for admission by earning a 2.50 or greater "a-g" GPA.
 - b. Any California high school graduate or resident of California earning a GPA between 2.00 and 2.49 may be evaluated for admission based upon supplemental factors such as number of courses exceeding minimum "a-g" requirements, household income, extracurricular involvement, and other available information that would inform the university admission decision.
 - c. Non-California residents may be eligible for admission to the CSU by earning a 3.00 or greater "a-g" GPA along with other supplemental factors utilized by the individual university, including those outlined by impacted universities and programs.
 - d. Any Non-California resident earning a GPA between 2.47 and 2.99 may be evaluated for admission based upon supplemental factors such as number of courses exceeding minimum "a-g" requirements, household income, extracurricular involvement, and other available information that would inform the university admission decision.
5. Each CSU will determine the supplemental factors used with GPA to determine eligibility in these cases and communicate these criteria publicly for prospective students.

The California State University (CSU) has permanently discontinued the use of ACT/SAT examinations in determining admission eligibility. Submitted test scores by admitted students would be considered only for purposes of student placement in Math or English courses.

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

- Possesses a high school diploma (or has established equivalence through either the General Educational Development or California High School Proficiency Examinations).
- Has not been enrolled in college as a full-time student for more than one term during the past five years.
- If there has been any college attendance in the last five years, has earned a 2.00 GPA or better in all college work attempted.

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.

Honors Courses. The CSU assigns extra points for up to eight semesters of approved honors level, International Baccalaureate (IB) and Advanced Placement (AP) courses taken in the last three years of high school: A=5 points, B=4 points, C=3 points.

No more than two approved honors level courses taken in the 10th grade may be given extra points. A grade of D in an honors IB or Advanced Placement course does not earn extra points.

Approved high school honors level courses means that the courses are identified as honors level on your official high school "a-g" course list. You can find your school's course list at the University of California's Course List Search.

Extra points are also awarded for college courses used to meet CSU "a-g" requirements. However, no more than eight (8) extra points may be awarded to any one applicant.

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 or Relations with Schools offices for further information.

Subject Requirement Substitution for Students with Disabilities. All students must be able to meet the academic, accreditation and technical standards required for admission or participation in their chosen program of study. Students with disabilities, therefore, are not excused from course prerequisites, GPA requirements or degree requirements. However, in some limited circumstances, substitution of course requirements based on a documented disability may be appropriate.

Such substitutions are granted only when it is clear that the student's disability makes completion of the requirement(s) impossible and when the course in question is not a fundamental element of the curriculum. A course substitution means that the credit hours for the course are met through an alternate course. A course substitution may not alter or reduce the number of credits needed for degree completion or create a fundamental alteration in the program of study.

Students should visit their campus's admissions website for the process to appeal an admission denial when the student's disability directly impacts their ability to complete an admission requirement.

The California Promise. The California Promise Program enables a specific number of CSUs to establish pledge programs for entering first-time students who are both interested and able to complete baccalaureate degrees in 4-years. All CSUs have established programs for students with Associate Degrees for Transfer from any California Community College to complete their baccalaureate degrees in 2-years. The program is limited to students who are residents of California.

Students who commit to enter either the 4-year or 2-year pledge will be given a priority registration appointment for each state-supported enrollment period and will be provided with routine and thorough academic advisement. In order to remain in the program, students must meet with their advisors as prescribed, develop an enrollment plan and complete 30 semester units or the quarter equivalent within each academic year, including summer. Participating CSUs may stipulate other requirements as well. Interested students entering the CSU should contact university offices or visit the California Promise Program website.

High School Students. High school students may be considered for enrollment in certain special programs if recommended by the principal and the appropriate university 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 Office.

Transfer Policies of California State University. Most commonly, college level credits earned from an institution of higher education accredited by a regional accrediting agency are accepted for transfer to member universities of the CSU; However, authority for decisions regarding the transfer of undergraduate credits is delegated to each university.

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 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 on the official transfer and articulation system for California's public colleges and universities website, assist.org.

CSUs may enter into course-to-course or program-to-program articulation agreements with other CSUs, any or all of the California Community Colleges, and other regionally accredited institutions. Established CSU and California Community College articulations may be found on assist.org. Students may be permitted to transfer no more than 70 semester (105 quarter) units to a CSU 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 university 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 coursework has been satisfactorily completed. Official high school transcripts must be received prior to the 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 CSU 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 high school diploma, have completed the comprehensive pattern of college preparatory "a-g" subjects and, if applying to an impacted program or university, have met all supplementary criteria.

Subject Requirements. The CSU requires that first-time freshman applicants complete, with grades of C- or better, a comprehensive pattern of college preparatory study totaling 15 units. A "unit" is one year of study in high school.

- 2 years of social science, including 1 year of U.S. history, or U.S. history and government
- 4 years of English
- 3 years of math (algebra, geometry and intermediate algebra; four years recommended)
- 2 years of laboratory science (1 biological & 1 physical, both 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.

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 freshmen admission. Transferable courses are those designated for baccalaureate credit by the college or University offering the courses and accepted as such by the university to which the applicant seeks admission.

Lower-Division Transfer Requirements. Due to increased enrollment demands, some CSUs do not admit lower-division transfer applicants. Students are advised to check the respective university they are interested in to see if lower division transfer applications are accepted. An applicant who completes fewer than 60 semester (90 quarter) units of college credit is considered a lower-division transfer student. Due to enrollment pressures, some CSUs do not admit lower-division transfers so that more upper-division transfers can be accommodated.

Having fewer than 60 semester (90 quarter) units at the point of transfer may affect eligibility for registration priority at a CSU and may affect the student's financial aid status.

California resident transfer applicants with fewer than 60 semester or 90 quarter units must:

- Have a cumulative grade point average of 2.0 (C) or better in all transferable units attempted;
- Have completed, with a grade of C- or better, a course in written communication and a course in mathematics or quantitative reasoning at a level satisfying CSU General Education Breadth Area A2 and B4 requirements, respectively;
- Be in good standing at the last institution attended; and
- Meet any one of the following eligibility standards.

Transfer Based on Current Admission Criteria

The applicant meets the freshman admission requirements in effect for the term for which the application is filed; - OR -

Transfer Based on High School Eligibility

The applicant was eligible as a freshman at the time of high school graduation and has been in continuous attendance in an accredited college since high school graduation; - OR -

Transfer Based on Making Up Missing Subjects

The applicant had a qualifiable eligibility index at the time of high school graduation (combination of GPA and test scores if needed), has made up any missing college preparatory subject requirements with a grade of C- or better, and has been in continuous attendance in an accredited college since high school graduation.

One baccalaureate-level course of at least 3 semester (4 quarter) units is usually considered equivalent to one year of high school study.

Note: Fresno State does not accept lower-division transfer students. Some CSUs may require lower-division transfer students to complete specific college coursework, for example the four basic skill courses, as part of their admission criteria.)

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; For impacted campuses such as Fresno State, this GPA is higher. See calstate.edu/apply for further information.
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 of C- or better in each course used to meet the CSU general education requirements in written communication, oral communication, critical thinking, and quantitative reasoning, e.g. mathematics.

The 60 units must include at least 30 units of courses that meet CSU general education requirements, 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 may have higher GPA requirements. GPA requirements are subject to change for each application cycle. Please refer to the Admissions Recruitment website for current impaction guidelines and GPA requirements.

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

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 a California community college student the optimum transfer preparation and a clear admission pathway to the CSU degree majors.

CCC students who earn an Associate Degree for Transfer (AA-T or AS-T) are guaranteed admission with junior standing to a CSU and given priority admission consideration over other transfer applicants when applying to a local CSU or non-impacted CSU program. AA-T or AS-T admission applicants are given limited priority consideration based on their eligibility ranking to an impacted university/program or to CSUs/programs that have been deemed similar to the degree completed at the community college. Students who have completed an AA-T/AS-T in a program deemed similar to a CSU major are able to complete remaining requirements for graduation within 60 semester (90 quarter) units. It is the responsibility of the student who has earned an AA-T/AS-T to provide documentation of the degree to the CSU. For the admissions process, students are responsible for working with their community college counselors to complete verification of AA-T or AS-T degree progress through the verify process within the established university deadlines.

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 university will monitor the final term to ensure that conditionally admitted students completed all required courses. All accepted applicants are required to submit an official transcript of all college level work completed. CSUs may rescind admission for any student who is found to be ineligible after the final transcript has been evaluated.

Undergraduate Application Procedures

Prospective students applying for part-time or full-time undergraduate programs of study must submit a completed undergraduate application. The \$70 nonrefundable application fee should be paid online at the time of application via credit card or PayPal and may not be transferred or used to apply to another term. An alternate major may be requested on the application if desired by the university. The applications of persons denied admission to an impacted university may be redirected to another university at no cost, but only if the applicant is CSU eligible.

Applicants should indicate an alternate major on their admission application. Generally, an alternate major will be considered at the first choice campus before an application is redirected to an alternate choice campus.

Note: The CSU accepts online payment at the time of application via credit card, e-check, or PayPal. Payment may not be transferred or used to apply to another term.

For undergraduate admission to California State University, Fresno you must:

1. Submit a current application with a nonrefundable application fee to at <http://www.calstate.edu/apply>.
2. Request institutions formerly attended to send transcripts directly to the Admissions Office transcripts of credits from high school and colleges. Failure to include all colleges attended may result in the withdrawal of your application. All transcripts submitted by students are retained by California State University, Fresno. Fresno State highly encourages electronic submission of official transcripts.
3. Meet the freshmen undergraduate admission requirements. 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.

In addition to the other documents required, veterans 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 community college semester units of credit are allowed toward the bachelor's degree. 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.

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 Undergraduate Degree Evaluations or the Bulldog Testing Center.

English Language Requirement

All undergraduate applicants whose native language is not English, and who have not attended schools at the secondary level or above for at least three years full time where English is the principal language of instruction, must present a score of [UNIVERSITY MINIMUM SCORE] or above on the Test of English as a Foreign Language (TOEFL). Some majors may require a score higher than [UNIVERSITYMINIMUM]. Some majors and some CSUs may require a higher score. A few CSUs may also use alternative methods of assessing English fluency: Pearson Test of English Academic (PTE Academic), the International English Language Testing System (IELTS) and the International Test of English Proficiency (ITEP). Each university will post the tests it accepts on its website and will notify students after they apply about the tests it accepts and when to submit scores. CSU minimum TOEFL standards is: Undergraduate 61 - Internet, 500-Paper.

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 requirement
3. General Education requirements
4. Specific course/skill requirements: (a) English Composition (ENGL 5A-ENGL 5B, ENGL 10, or equivalent); (b) United States History (HIST 11 or HIST 12); (c) United States and California Constitution (PLSI 2 or **PLSI 101**); (d) Upper-division writing skills; (e) Multicultural/International Requirement
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 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 online application for graduation via the Student Center by one of the published deadlines. After paying the fee online, your application is submitted to Undergraduate Degree Evaluations.

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 major or minor requirements.
- Students may not earn a special major as a double major.

One Degree with More than One Major and/or Minor: Two majors leading to the same baccalaureate degree (such as a 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 as all work can be completed within 144 units.

Graduating with Two Degrees: A student may be awarded more than one baccalaureate degree (such as a B.A. & B.S., B.S. & B.F.A., etc.) at the same time provided that requirements of all degree programs have been completed. Students who complete two different baccalaureate degrees must 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 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 a Bachelor of Arts/Bachelor of Science Degree

The Special Major Degree provides an opportunity for students to engage in an individualized course of study leading to a degree when one's academic and professional goals are not accommodated by standard degree majors. The Special Major consists of correlated studies in two or more fields and should provide integrated instruction comparable in quality and depth to regular major programs. It is not intended as a means of bypassing normal graduation requirements.

The candidate must have the special major program approved by the Provost and Vice President for Academic Affairs or designee prior to the semester of graduation. 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 satisfy General Education requirements may be included in the Special Major. Also, a maximum of six independent study units may be included in the Special Major Program.

Any exception to the above criteria must be approved in writing by the Provost and Vice President for Academic Affairs or designee.

A student requesting a Special Major must obtain application forms from the University Advising Center. On these forms the student must: 1) Prepare a statement giving 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 lead to the academic and professional goals stated above; 3) Secure the signed approval from the University Advising Center, as well as from the Special Major Advisor and department chair in the areas from which the Special Major courses are drawn. The student must submit the foregoing material to the Office of the Provost and Vice President for Academic Affairs or designee for final approval.

Note: Military students or dependents utilizing benefits are not eligible for Special Majors. Please consult with the Veterans Resource Center for more information at fsveterans@mail.fresnostate.edu or 559.278.6036.

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

Specific Course/Skill Requirements

English Requirement. ENGL 10, 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.)

U.S. History and Government Requirements. Undergraduate 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 HIST 11 or HIST 12 and Political Science 2. (In cases in which students have completed the federal government requirement at another institution, 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.).

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 - Sports Administration, Exercise Science, Physical Education 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 for Prior Learning, including Credit by Examination (CLEP, DANTES, etc.), military credit and/or education. Maximum does not include Credit for Advanced Placement Examination (AP) & International Baccalaureate (IB).
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. (Note: If utilizing any form of VA Education Benefits please consult with an advisor in the Veterans Resource Center prior to registering.)
8. A maximum of 6 semester units is allowed for coursework in typing/keyboarding.

Second Baccalaureate Degree

Please note: Pursuant to Executive Order 1084, postbaccalaureate students (i.e., those who already hold a bachelor's degree) seeking a second baccalaureate degree will only be considered for nursing majors.

1. If eligible, 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 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; (f) filing of an undergraduate degree application and payment of graduation fee. (**See Graduation.**)

2. Students pursuing a second baccalaureate degree 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. (**See Choice of Catalog.**)
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 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 will be notated 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).
4. course is not a repeated attempt.

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. (Search Graduate Studies - Advancement to Candidacy.) Only students with graduate standing may enroll in the following courses: 290, 298, 299. (Search Graduate Studies - Criteria for Thesis and Project.) Use of postbaccalaureate credit for other purposes is to be determined by the appropriate authority.

ITEP Postbaccalaureate Credit. Students participating in an approved ITEP degree program are granted up to 14 units of postbaccalaureate credit for coursework that is in excess of the 120 unit undergraduate degree requirement. Courses in excess will be notated as postbaccalaureate credit on the transcript. Students will also be able to request a letter in support of their postbaccalaureate credit by the Kremen School of Education Dean. For more information, contact the ITEP program directly.

Graduation

Students who anticipate meeting bachelor's degree requirements by the end of a term should file an online application for a degree (including appropriate fees) with Undergraduate Degree Evaluations. The Division of Research and Graduate Studies processes graduate degree applications. See Semester Calendar for filing dates and deadlines located on the Office of the University Registrar's webpage. Failure to apply before the final deadline will delay the granting of the degree.

Undergraduate Degree Evaluations review student applications for bachelor degrees and inform them regarding eligibility. 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 online application for the degree and pay the graduation fee
2. Have completed with appropriate scholastic standing all courses required for the degree.
3. Have filed official transcripts for all coursework attempted prior to graduation

It is the responsibility of students to be sure all requirements have been met and documentation has been filed with the Undergraduate Degree Evaluations or the Division of Research and Graduate Studies by the appropriate deadlines. **No additions, deletions, or changes to students' records are permitted after the degree has been recorded.** Graduates receive their official diplomas by mail.

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

1. Students must have an overall minimum **Cumulative** grade point average of 3.5 on all work attempted **and**;
2. Students must have a minimum **Campus** grade point average of 3.5 on all work taken at the university.

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 California Promise Program

The California Promise Program enables a specific number of CSU campuses to establish pledge programs for entering first-time students who are both interested and able to complete baccalaureate degrees in four years. All campuses have established programs for students with Associate Degrees for Transfer from any California Community College to complete their baccalaureate degrees in two years. The program is limited to students who are residents of California. Detailed program information can be found on the website at <http://fresnostate.edu/academics/californiapromise/> or contact capromise@mail.fresnostate.edu.

Students who commit to enter either the four-year or two-year pledge will be given a priority registration appointment for each state-supported enrollment period and will be provided with routine and thorough academic advisement. In order to remain in the program, students must meet with their advisors as prescribed, develop an enrollment plan and complete 30 semester units within each academic year, including summer. Participating campuses may stipulate other requirements as well. Fresno State has an additional 2.75 GPA requirement to remain in the program.

15 to Finish

Graduating in 4 years as an entering freshman, or 2 years as an entering transfer student, is possible. By earning 30 units per year, or 15 per semester, a student will complete the minimum 120 units needed for an undergraduate degree. **"15 to Finish"** is a campus-wide initiative to provide undergraduate students with guidance in completing degree requirements in a timely manner. Meeting regularly with an advisor and creating a semester-by-semester plan will help ensure the correct classes are taken in the right order to achieve a timely graduation. For more, visit <https://studentaffairs.fresnostate.edu/15tofinish.html>.

Commencement

All degrees conferred fall within eight schools and colleges. Each organizes its own ceremony to honor graduating students. 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. Awarded certificates of completion are not currently posted on the Fresno State official transcript.
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. The Certificate of Special Study earned fall 2021 or forward is posted to the Fresno State official transcript. Students may contact the department offering the Certificate of Special Study for more information.
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 Research and 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:

- Art
- English
- Foreign Languages - Spanish, French
- Mathematics
- Music
- Physical Education
- Science - Biology, Chemistry, Physical Science, Geo 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

*The CSU makes every effort to keep student costs to a minimum. Tuition and fees listed in published schedules or student accounts may need to be increased when public funding is inadequate. Therefore, CSU reserves the right, even after tuition or fees are initially charged or initial payments are made, to increase or modify any listed tuition or fees. All listed fees, other than mandatory systemwide tuition, are subject to change without notice, until the date when instruction for a particular semester or quarter has begun. All CSU-listed tuition and fees should be regarded as **estimates** that are subject to change upon approval by the Board of Trustees, the chancellor or the presidents, as appropriate. Changes in mandatory systemwide tuition will be made in accordance with the requirements of the Working Families Student Fee Transparency and Accountability Act (Sections 66028 through 66028.6 of the California Education Code).*

Student Fees*

Students are required to pay tuition and other fees (as indicated in the text and table below), 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 online at the time of application via credit card, debit card, or PayPal: \$70

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 "course description" 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

Nonresident students (U.S. and foreign) are required to pay the nonresident tuition fee in addition to tuition and systemwide fees. Nonresident tuition (in addition to basic tuition and other systemwide fees charged all students) for all CSUs is charged at **\$396 per unit** (per semester). 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 below). Students are charged campus fees in addition to tuition and systemwide fees. Information on campus fees can be found by contacting the individual CSUs.

Graduate Business Professional Fee

The graduate business professional fee of \$270 is paid on a per unit (per semester) basis in addition to basic tuition and campus fees for specific graduate business programs authorized to assess the fee. A list of academic programs authorized to assess the fee can be found on the CSU Tuition website.

Doctorate Tuition Fees*

Audiology (all students) **\$7,371**

Education (all students) **\$5,919**

Nursing Practice (all students) **\$7,635**

Occupational Therapy (all students) **\$8,598**

Physical Therapy (all students) **\$8,598**

Public Health (all students) **\$8,598**

* Tuition per semester. Applicable term tuition applies for universities with special terms, as determined by the university. Total college year tuition cannot exceed the academic year plus summer term tuition. The summer term tuition for the education doctorate at quarter universities is equal to the per semester tuition listed in the table. Total tuition for the education doctorate over the college year equals the per academic year tuition plus the per semester tuition for the summer term at all CSUs.

2023-2024 Tuition and Other Fees Per Semester (all students)

	Undergrad 0-6 units	Undergrad 6.1 or more units	Credential Program 0-6 units	Credential Program 6.1 or more units	Graduate/Postbacc 0-6 units	Graduate/Postbacc 6.1 or more units
Facility Fee	\$3	\$3	\$3	\$3	\$3	\$3
Health Service Fee	\$151	\$151	\$151	\$151	\$151	\$151
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	\$276	\$276	\$276	\$276	\$276	\$276
Tuition Fee	\$1,665	\$2,871	\$1,932	\$3,330	\$2,082	\$3,588
Total	\$2,284.50	\$3,490.50	\$2,551.50	\$3,949.50	\$2,701.50	\$4,207.50

- 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 Admissions and Recruitment at 559.278.2261.

Extension Program Fees

(subject to change by the Campus Fee Committee)

Extension

\$0-\$300 (per unit)

Open University

\$310 (per unit)

Special Sessions

(per unit) varies depending on program

Spring Intersession

\$305 (per unit)

Summer Session

Graduate classes \$405 (per unit)

Undergraduate classes \$331 (per unit)

Winter Intersession

\$305 (per unit)

Miscellaneous Fees

Application Fee

\$70 (Nonrefundable)

Credential Fees

Credential Processing Fee

\$25 per credential

Commission on Teacher Credentialing Fee

Amount varies. Contact the Credential Analyst in the Center for Advising and Student Services, Kremen School of Education and Human Development at 559.278.0300.

Diploma Reissue Fee

\$20

Graduation Application Fee

(bachelor's) \$59

(master's) \$35

(doctorates) \$35

Parking Permit Prices for Students

Automobile per semester \$93

Motorcycle per semester \$17

Transcript of Record

\$4 first copy [\$2 each additional copy and \$1 additional copies prepared after ten (10) when ordered at the same time]. Additional fees may apply when ordering through Fresno State's third party vendor.

- 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 tuition is 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 and systemwide fees. Information on campus fees can be found by contacting the individual campus(es).

Credit Cards

American Express, Discover, MasterCard, and Visa, may be used on My Fresno State. Payments are subject to a non-refundable credit card processing fee.

Refund of Mandatory Fees, including Nonresident Tuition

Regulations governing the refund of tuition and mandatory fees, including nonresident tuition, for students enrolling at the California State University (CSU) are included in Section 41802 of Title 5, California Code of Regulations. For purposes of the refund policy, mandatory fees are defined as those systemwide and campus fees that are required to be paid in order to enroll in state-supported academic programs at the CSU.

Automobile fall/spring \$186

Motorcycle fall/spring \$34

Automobile summer \$44

Motorcycle summer \$11

Penalty Fees

Check return fee \$20

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 \$250

Refund Processing Fee

\$5

Refunds of fees and tuition charges for self-support, special session and Professional and Continuing Education (PaCE) programs or courses at the CSU are governed by a separate policy established by the university, available at Student Accounts Refund Information website.

In order to receive a full refund of tuition and mandatory fees, including nonresident tuition, less an administrative charge established by the university, 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 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 university-designated drop period will receive a refund of tuition and mandatory fees, including nonresident tuition, based on the portion of the term during which the student was enrolled. No student withdrawing after the 60 percent point in the term will be entitled to a refund of any mandatory fees or nonresident tuition.

A student who, within the university designated drop period and in accordance with university 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 university.

For state-supported non-standard terms or courses of less than four weeks, no refunds of tuition and mandatory fees, including nonresident tuition, will be made unless a student cancels registration or drops all classes, in accordance with the university's established procedures and deadlines, prior to the first day of instruction for state-supported non-standard terms or courses or prior to the first meeting for courses of less than four weeks.

Students will also receive a refund of tuition and mandatory fees, including nonresident tuition, under the following circumstances:

- the tuition and fees were assessed or collected in error;
- the course for which the tuition and fees were assessed or collected was canceled by the university;
- the university makes a delayed decision that the student was not eligible to enroll in the term for which tuition and mandatory fees were assessed and collected and the delayed decision was not due to incomplete or inaccurate information provided by the student; or
- the student was activated for compulsory military service.

Students who are not entitled to a refund as described above may petition the university for a refund demonstrating exceptional circumstances and the chief financial officer of the university or designee may authorize a refund if they determine 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, Joyal Administration Building, Room 181. Phone 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 Accounts. 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 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 Accounts 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 Accounts.

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 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 canceled, 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, including tuition and student charges, the institution may "withhold permission to register, to use facilities for which a fee is authorized to be charged, to receive services, materials, food or merchandise or any combination of the above from any person owing a debt" until the debt is paid (see Title 5, California Code of Regulations, Sections 42380 and 42381).

In accordance with Title 38 US Code 3679 subsection (e), this school adopts the following additional provisions for any students using U.S. Department of Veterans Affairs (VA) Post 9/11 G.I. Bill® (Ch. 33) or Vocational Rehabilitation & Employment (Ch. 31) benefits, while payment to the institution is pending from the VA. This school will not: Prevent the student's enrollment; Assess a late penalty fee to the student; Require the student to secure alternative or additional funding; Deny the student access to any resources (access to classes, libraries, or other institutional facilities) available to other students who have satisfied their tuition and fee bills to the institution.

However, to qualify for this provision, such students may be required to: Produce the VA Certificate of Eligibility (COE) by the first day of class; Provide a written request to be certified; or Provide additional information needed to properly certify the enrollment as described in other institutional policies. Contact the Veterans Resource Center for more information atfsveterans@mail.fresnostate.edu or 559.278.6036.

Prospective students who register for courses offered by the university are obligated for the payment of charges and fees associated with registration for those courses. Failure to cancel registration in any course for an academic term prior to the first day of the academic term gives rise to an obligation to pay student charges and fees including any tuition for the reservation of space in the course.

The institution may withhold permission to register or 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.

The institution may not withhold an official transcript of grades by the institution from anyone owing fees or another debt to the institution (see Title 1.6C.7 (commencing with Section 1788.90) Part 4 of Division 3 of the Civil Code). The institution can still charge a fee for the issuance of the transcript pursuant to their published transcript processing fees.

If a person believes they do not owe all or part of an asserted unpaid obligation, that person may contact Student Accounts, 559.278.2876. Student Accounts, or another office to which the person may be referred, will review all pertinent information provided by the person and available to the university and will advise the person of its conclusions.

Fee Waivers and Exemptions

GI Bill® is a registered trademark of the U.S. Department of Veterans Affairs(VA). More information about education benefits offered by VA is available at the official U.S. government Web site at <https://www.benefits.va.gov/gibill>.

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

Section 66025.3(a) - Dependent eligible to receive assistance under Article 2 of Chapter 4 of Division 4 of the Military and Veterans Code; child of any veteran of the United States military who has a service-connected disability, has been killed in service, or has died of a service-connected disability, and meets specified income provisions; dependent, or surviving spouse who has not remarried of any member of the California National Guard who, in the line of duty, and while in the active service of the state, was killed, died of a disability resulting from an event that occurred while in the active service of the state, or is permanently disabled as a result of an event that occurred while in the active service of the state; and any undergraduate student who is a recipient of a Medal of Honor, or undergraduate student who is a child of a recipient of a Medal of Honor who is no more than 27 years old, who meets the income restriction and California residency requirement.

Section 66025.3(b) - Current or former foster youth who are 25 years of age or younger; has been in foster care for at least 12 consecutive months after reaching 10 years of age; meet any of the following:

- i. Is under a current foster care placement order by the juvenile court;
- ii. Was under a foster care placement order by the juvenile court upon reaching 18 years of age;
- iii. Was adopted, or entered guardianship, from foster care;
- iv. Completes and submits the Free Application for Federal Student Aid (FAFSA);
- v. Maintains a minimum grade point average and meets the conditions necessary to be in good standing at the university; and
- vi. Meets the financial need requirements established for Cal Grant A awards under Chapter 1.7 of Part 42.

The waiver of mandatory systemwide tuition and fees under this section applies only to a person who is determined to be a resident of California pursuant to Chapter 1 (commencing with Section 68000) of Part 41 of the California Education Code.

Section 66602 - A qualifying student from the California State University (CSU) who is appointed by the Governor to serve as Trustees of the California State University (CSU) for the duration of student member's term of office.

Section 68120 - Surviving spouse or child of a deceased California resident who was employed by a public agency or was a contractor, or an employee of a contractor, performing services for a public agency, or was a firefighter employed by the federal government whose duty assignment involved the performance of firefighting services in this state. The deceased person's principal duties consisted of active law enforcement service or active fire suppression and prevention, and was killed in the performance of active law enforcement or active fire suppression and prevention duties (referred to as Alan Pattee Scholarships). Additionally, a person who qualifies for the waiver under this section as a surviving child of a contractor, or of an employee of a contractor, who performed services for a public agency, must be enrolled as an undergraduate student at the California State University and meet the applicable income restriction requirement with supporting documentation (i.e. student's income, including the value of parent support, does not exceed the maximum household income and asset level for an applicant for a Cal Grant B award).

Section 68120.3 - Surviving spouse (until January 1, 2033) or surviving child (until attaining the age of 30) of a deceased California resident who was a licensed physician or licensed nurse employed by or under contract with a health facility regulated and licensed by the State Department of Public Health to provide medical services, or a first responder employed to provide emergency services as described in Section 8562 of the Government Code. The deceased person's principal duties consisted of providing medical services or emergency services during the COVID-19 pandemic state of emergency (started March 4, 2020, until the Governor lifts the state of emergency), and the deceased person died of COVID-19 during the COVID-19 pandemic state of emergency. The person who qualifies for this waiver must enroll as an undergraduate student at a CSU, was a resident of California during the COVID-19 pandemic state of emergency, and the annual income (including the value of parent's support) does not exceed the maximum household income and asset level for an applicant for a Cal Grant A award, as set forth in Section 69432.7.

Section 68121 - A qualifying student (until attaining the age of 30) who is the surviving dependent of any individual killed in the September 11, 2001, terrorist attacks on the World Trade Center in New York City, the Pentagon building in Washington, D.C., or the crash of United Airlines Flight 93 in southwestern Pennsylvania, if the student meets the financial need requirements set forth in Section 69432.7 for the Cal Grant A Program and either the surviving dependent or the individual killed in the attacks was a resident of California on September 11, 2001.

Section 69000 - A California resident who has been exonerated, as that term is defined in Section 3007.05 of the Penal Code; completes and submits the FAFSA; and meets the financial need requirements established for Cal Grant A awards. The student's mandatory systemwide tuition and fees waived pursuant to this subdivision shall not have in excess of the equivalent of six years of full-time attendance in an undergraduate program.

Students who may qualify for the above benefits should contact the Veterans Resource Center (with exception to 66602) for further information and/or an eligibility determination.

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

Section 69075 - A student who is a member of the Armed Forces of the United States stationed in this state, except a member of the Armed Forces assigned for educational purposes to a state-supported institution of higher education, is entitled to resident classification only for the purpose of determining the amount of tuition and fees. If that member of the Armed Forces of the United States who is in attendance at an institution is thereafter transferred on military orders to a place outside this state where the member continues to serve in the Armed Forces of the United States, the member shall not lose the member's resident classification so long as the member remains continuously enrolled at that institution.

Section 68075.7 - A nonresident student is exempt from paying nonresident tuition or any other fee that is exclusively applicable to nonresident students if the student:

1. Resides in California;
2. Meets the definition of "covered individual" as defined in Section 3679(c)(2) of Title 38 of the United States Code; or
3. Is eligible for education benefits under the federal Montgomery GI Bill®-Active Duty program (Chapter 30 (commencing with Section 3001) of Title 38 of the United States Code), the Veterans Readiness and Employment program (Chapter 31 (commencing with Section 3100) of Title 38 of the United States Code), the Post-9/11 GI Bill® program (Chapter 33 (commencing with Section 3301) of Title 38 of the United States Code), or the Survivors' and Dependents' Educational Assistance program (Chapter 35 (commencing with Section 3500) of Title 38 of the United States Code), as each read on January 5, 2022.

Section 68122 - Students who are victims of trafficking, domestic violence, and other serious crimes who have been granted a status under Section 1101(a)(15)(T)(i) or (ii), or Section 1101(a)(15)(U)(i) or (ii), of the Title 8 of the United States Code shall be exempt from paying nonresident tuition to the same extent as individuals who are admitted to the United States as refugees under Section 1157 of the Title 8 of the United States Code.

Section 68130.5 - A nonresident student, other than a person excluded from the term "immigrant" for purposes of the federal Immigration and Nationality Act (8 U.S.C. Sec. 1101), pursuant to paragraph (15) of subsection (a) of Section 1101 of Title 8 of the United States Code, shall be exempt from paying nonresident tuition if the student meets the requirements of (1) through (4), below.

1. Satisfaction of the requirements of either subparagraph (A) or subparagraph (B).
 - a. A total attendance of, or attainment of credits earned while in California equivalent to, three or more years of full-time attendance or attainment of credits at any of the following:
 - i. California high schools;
 - ii. California high schools established by the State Board of Education;
 - iii. California adult schools established by a county office of education, a unified school district or high school district, or the Department of Corrections and Rehabilitation (subject to the class hours' requirement);
 - iv. Campuses of the California Community Colleges (subject to the credit requirements); or
 - v. A combination of those schools set forth in clauses (i) to (iv), inclusive.
 - b. Three or more years of full-time high school coursework in California, and a total of three or more years of attendance in California elementary schools, California secondary schools, or a combination of both.
2. Satisfaction of any of the following:
 - a. Graduation from a California high school or attainment of the equivalent thereof;
 - b. Attainment of an associate degree from a campus of the California Community Colleges; or
 - c. Fulfillment of the minimum transfer requirements established for the California State University for students transferring from a campus of the California Community College.
3. Registration as an entering student at, or current enrollment at, an accredited institution of higher education in California not earlier than the fall semester or quarter of the 200102 academic year.
4. In the case of a person without lawful immigration status, the filing of an affidavit with the institution of higher education stating that the student has filed an application to legalize the student's immigration status or will file an application as soon as the student is eligible to do so.

Refund Policy for Tuition and Other Fees

(All refunds will be subject to a \$5 administrative fee.) It is the student's sole 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 must drop all courses before the first day of instruction to avoid enrollment charges. Failure to do so will result in enrollment charges that the student will be required to pay, unless the student can demonstrate they had exceptional circumstances, which prevented them from dropping their classes and the chief financial officer of the university or designee approves an enrollment charges adjustment.

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 \$26,626. 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. The figures below are estimates and subject to change.

Room and Board (average) = \$11,035*

Tuition and Other Fees = \$4,180 - \$18,046

Books and Supplies (approx.) = \$500-1,200

* Estimate for on-campus housing only.

Source of Funds and Average Costs for CSU Budget

2022-23	Amount	Average Cost Per FTE Student	Percent
State Appropriation (GF) (1)	\$4,589,590,000	\$11,962	59.6
Gross Tuition Fee Revenue (2)	\$3,081,482,000	\$7,634	31.7
Other Fees Revenue (2)	\$45,078,000	\$4,778	8.7
Total Support Cost	\$7,716,150,000	\$24,374	100

1. Represents state GF appropriation in the Budget Act of 2022/23; GF is divisible by resident students only (383,680 FTES).
2. Represents CSU Operating Fund, gross tuition and other fees revenue amounts submitted in campus August 2022/23 final budgets. Revenues are divisible by resident and nonresident students (403,633 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 2022/23 budget amounts were \$4,589,590,000 from state General Fund (GF) appropriations, before a \$(68.5) million CalPERS retirement adjustment, \$2,446,491,000 from gross tuition revenue, and \$672,655,000 from other fee revenues for a total of \$7,708,736,000. The 2022/23 resident FTES target is 383,680 and the nonresident FTES based on past-year actual is 19,953 for a total of 403,633 FTES. The GF appropriation is applicable to resident students only whereas fee revenues are collected from resident and nonresident students. FTES is derived by dividing the total student credit units attempted by a fixed amount depending on academic level (e.g., 30 for a semester campus and 45 for a quarter campus, the figures that define a full-time undergraduate or postbaccalaureate student's academic load).

The 2022/23 average support cost per FTES based on GF appropriation and net tuition fee revenue only is \$18,023 and is \$19,960, which includes all fee revenue (e.g. tuition fees, application fees, and other mandatory fees) in the CSU Operating Fund. Of this amount, the average tuition and other fee revenue per FTES is \$7,728.

The average CSU 2022/23 academic year, resident, undergraduate student basic tuition and other mandatory fees required to apply to, enroll in, or attend the university is \$7,520 (\$5,742 tuition fee plus \$1,778 average campus-based fees). However, the costs paid by individual students will vary depending on university, program, and whether a student is part-time, full-time, resident, or nonresident.

Bicycle Registration

The Fresno State Police Department offers free bicycle registration services to Students, Faculty and Staff. Individuals who register their bicycles are eligible to receive four complimentary parking permits, each valid for a single day use, for days a vehicle is used to commute to campus. Bicycle Registration forms may be obtained at the Fresno State Parking Office or at <https://adminfinance.fresnostate.edu/police/transportation/bike/register.html>

Financial Assistance

Financial Aid and Scholarships Office

Kelly Russell, Director
Joyal Administration (North Lobby),
559.278.2182
financialaid@mail.fresnostate.edu
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 student support from scholarships, sponsorships, tuition waivers, veteran's benefits, stipends, etc. Most of these programs are administered by the Financial Aid and Scholarships Office and the majority are funded by federal and state government programs.

Students are required to submit the Free Application for Federal Student Aid (FAFSA) or the California Dream Act Application (CADAA) to determine eligibility for most programs. Students are encouraged to electronically submit the FAFSA at <https://studentaid.gov> and the California Dream Act Application at <http://dream.csac.ca.gov>. Many state and institutional programs have a priority application date of March 2nd of each year.

For details about all federal and state aid programs available at Fresno State, visit the financial aid website at www.fresnostate.edu/financialaid.

For questions about completing the FAFSA or the CADAA, please contact the Financial Aid and Scholarships Office or visit the websites at <https://studentaid.gov> and <https://dream.csac.ca.gov>.

GI Bill® is a registered trademark of the U.S. Department of Veterans Affairs(VA). More information about education benefits offered by VA is available at the official U.S. government Web site at <https://www.benefits.va.gov/gibill>.

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 system wide fees or tuition of any kind; to include Application Fee, Student Body Center Fee, Student Body Association Fee, Health Services Fee, Health Facilities Fee, Instructionally Related Activities (IRA), or other Campus Mandatory Fees at any California State University campus. Students who may qualify for these benefits should contact the Veterans Resource Center for an eligibility determination by contacting them at fsveterans@mail.fresnostate.edu or calling 559.278.7030.

Air Force Reserve 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 HIS 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 Research and Graduate Studies.

Division of Research and Graduate Studies Student Research Awards and Travel Grants. For additional information, see the Division of Research and Graduate Studies.

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 advisors and Public Safety Assistants. Student Housing employs up to 19 students to work as resident advisors (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 nightly, and provide escort services. Applications are available on the Student Housing website at the beginning of the spring semester.

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, maybe 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).

Federal Legislation. Johnny Isakson and David P. Roe, M.D. Veterans Health Care and Benefits Improvement Act of 2020 (P.L. 116-115). Sec. 1005. In-State Tuition Requirement. Public institutions must provide in-state tuition for GI Bill® students regardless of when veteran separated from the military.

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.

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 post-doctoral teaching at a CSU campus, individuals are granted loan forgiveness at a rate of 20% per year. Interested candidates should contact Fresno State CDIP Campus Coordinator Chuck Radke (cradke@csufresno.edu) with further questions, or visit www.calstate.edu/HR/FLP.

California Predoctoral Program for Undergraduate and Graduate Students. For additional information, see the Division of Research and Graduate Studies.

Program Specifications

Satisfactory Academic Progress (SAP) 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 and Scholarships 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. The entire Satisfactory Academic Progress policy is available at <http://fresnostate.edu/studentaffairs/financialaid/policies/sap>.

To maintain financial aid eligibility students must meet the requirements for all 3 SAP components: GPA, Pace, Maximum Units, Other Provisions.

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 students reach 150% of their program length. Some exceptions are granted.)

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 <http://fresnostate.edu/studentaffairs/financialaid> or in the Financial Aid and Scholarships Office, Joyal Administration Building (North Lobby).

University Scholarship Program

Fresno State awards over 800 individual thousand scholarships each year totaling almost \$5 million to incoming and continuing students. Institutional scholarships range from \$100 to almost \$36,000 and are awarded to both undergraduate and graduate students. Scholarships are offered by various colleges, departments and organizations to students who meet specific criteria.

Factors for Consideration of Scholastic Achievement

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

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 scholarship application for Fresno State will be available online starting **October 1** of each year. The "priority" application deadline is the following **March 2**. 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.

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 \$3,000/semester scholarship 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/>.

Fee Waivers

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

Section 66025.3

Military - College Fee Waiver Program (Cal Vet Waiver)

Any Dependent (natural or adopted child, stepchild) eligible to receive assistance under Article 2 of Chapter 4 of Division 4 of the Military and Veterans Code; child of any veteran of the United States military who has a service-connected disability, has been killed in service, or has died of a service-connected disability, and meets specified income provisions; dependent, or surviving spouse who has not remarried of any member of the California National Guard who, in the line of duty, and while in the active service of the state, was killed, died of a disability resulting from an event that occurred while in the active service of the state, or is permanently disabled as a result of an event that occurred while in the active service of the state; and any undergraduate student who is a recipient of a Medal of Honor, or undergraduate student who is a child of a recipient of a Medal of Honor who is no more than 27 years old, who meets the income restriction and California residency requirement. The Department of Veterans Affairs shall determine the eligibility of any applicant for a fee waiver under this section. (www.calvet.ca.gov)

Foster Youth

Current or former foster youth who are 25 years of age or younger; have been in foster care for at least 12 consecutive months after reaching 10 years of age; meet one of the following: is under a current foster care placement order by the juvenile court, was under a foster care placement order by the juvenile court upon reaching 18 years of age, or was adopted, or entered guardianship, from foster care; completes and submits the Free Application for Federal Student Aid (FAFSA); maintains a minimum grade point average and meets the conditions necessary to be in good standing at the campus; and meets the financial need requirements established for Cal Grant A awards. The waiver of mandatory systemwide tuition and fees under this section applies only to a person who is determined to be a resident of California pursuant to Chapter 1 (commencing with Section 68000) of Part 41 of the California Education Code.

Section 66602 - A qualifying student from the California State University who is appointed by the Governor to serve as Trustee of the California State University for the duration of his or her term of office.

Section 68120 - Surviving spouse or child of a deceased California resident who was employed by a public agency, or was a contractor or an employee of a contractor, performing services for a public agency, and was killed or died as a result of an industrial injury or illness arising out of and in the course of the performance of his/her principal duties of active law enforcement or active fire suppression and prevention duties (referred to as Alan Pattee Scholarships, see above). Additionally, a person who qualifies for the waiver under this section as a surviving child of a contractor or of an employee of a contractor, who performed services for a public agency, must have enrolled as an undergraduate student at the California State University and meet the applicable income restriction requirement with supporting documentation (i.e. his/her income, including the value of parent support, does not exceed the maximum household income and asset level for an applicant for a Cal Grant B award, as set forth in Section 69432.7).

Section 68121 - A qualifying student enrolled in an undergraduate program who is the surviving dependent of any individual killed in the September 11, 2001, terrorist attacks on the World Trade Center in New York City, the Pentagon building in Washington, D.C., or the crash of United Airlines Flight 93 in southwestern Pennsylvania, if the student meets the financial need requirements set forth in Government Code Section 69432.7 for the Cal Grant A Program and either the surviving dependent or the individual killed in the attacks was a resident of California on September 11, 2001.

Students who may qualify for the above benefits should contact the Admissions/Registrar's Office for further information and/or an eligibility determination.

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

Section 68075 - A student who is a member of the Armed Forces of the United States stationed in this state, except a member of the Armed Forces assigned for educational purposes to a state-supported institution of higher education, is entitled to resident classification only for the purpose of determining the amount of tuition and fees.

If that member of the Armed Forces of the United States who is in attendance at an institution is thereafter transferred on military orders to a place outside this state where the member continues to serve in the Armed Forces of the United States, he or she shall not lose his or her resident classification so long as he or she remains continuously enrolled at that institution.

Section 68075.7 - A nonresident student is exempt from paying nonresident tuition or any other fee that is exclusively applicable to nonresident students if the student (1) resides in California, (2) meets the definition of "covered individual" as defined in either: (A) Section 3679(c)(2)(A) or (B)(ii)(I) of Title 38 of the United States Code, as that provision read on January 1, 2017 or (B) Section 3679(c)(2)(B)(i) or (ii)(II) of Title 38 of the United States Code, as that provision read on January 1, 2017, and (3) is eligible for education benefits under either the federal Montgomery GI Bill®-Active Duty program(30 U.S.C. § 3001 et seq.) or the Post-9/11 GI Bill® program (38 U.S.C. § 3301 et seq.) as each read on January 1, 2017.

Section 68122 - A student who is a victim of trafficking, domestic violence, and other serious crimes who has been granted T or U visa status (respectively under Section 1101(a)(15)(T)(i) or (ii), or Section 1101(a)(15)(U)(i) or (ii), of Title 8 of the United States Code) shall be exempt from paying nonresident tuition to the same extent as individuals who are admitted to the United States as refugees under Section 1157 of Title 8 of the United States Code.

Section 68130.5 - A student, other than a nonimmigrant alien (8 U.S.C. § 1101(a)(15)), who is not a resident of California is exempt from paying nonresident tuition if the student meets the requirements of (1) through (4), below:

1. Satisfaction of the requirements of either subparagraph (A) or subparagraph (B):
 - a. A total attendance of, or attainment of credits earned while in California equivalent to, three or more years of full-time attendance or attainment of credits at any of the following:
 - i. California high schools.
 - ii. California high schools established by the State Board of Education.
 - iii. California adult schools established by a county office of education, a unified school district or high school district, or the Department of Corrections and Rehabilitation (subject to the class hours' requirement).
 - iv. Campuses of the California Community Colleges (subject to the credit requirements).
 - v. A combination of those schools set forth in clauses (i) to (iv), inclusive.
 - b. Three or more years of full-time high school coursework, and a total of three or more years of attendance in California elementary schools, California secondary schools, or a combination of California elementary and secondary schools.
2. Satisfaction of any of the following:
 - a. Graduation from a California high school or attainment of the equivalent thereof.
 - b. Attainment of an associate degree from a campus of the California Community Colleges.
 - c. Fulfillment of the minimum transfer requirements established for the California State University for students transferring from a campus of the California Community Colleges.
3. Registration as an entering student at, or current enrollment at, an accredited institution of higher education in California not earlier than the fall semester or quarter of the 2001-02 academic year.
4. In the case of a person without lawful immigration status, the filing of an affidavit with the institution of higher education stating that the student has filed an application to legalize his or her immigration status, or will file an application as soon as he or she is eligible to do so.

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.

Institutional Information

Availability of Institutional and Financial Assistance Information

The following information concerning student financial assistance may be obtained from the Financial Aid and Scholarships Office, Joyal Administration Building (North Lobby), 559.278.2182 (see also <https://studentaffairs.fresnostate.edu/financialaid/index.html>):

- A description of the federal, state, institutional, local, and private student financial assistance programs available to students who enroll at Fresno State;

- For each aid program, a description of procedures and forms by which students apply for assistance, student eligibility requirements, criteria for selecting recipients from the group of eligible applicants, and criteria for determining the amount of a student's award;
- A description of the rights and responsibilities of students receiving financial assistance, including federal Title IV student assistance programs, and criteria for continued student eligibility under each program;
- The satisfactory academic progress standards that students must maintain for the purpose of receiving financial assistance and criteria by which a student who has failed to maintain satisfactory progress may reestablish eligibility for financial assistance;
- The method by which financial assistance disbursements will be made to students and the frequency of those disbursements;
- The 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;
- The terms of any loan received as part of the student's financial aid package, a sample loan repayment schedule, and the necessity for repaying loans;
- The general conditions and terms applicable to any employment provided as part of the student's financial aid package;
- The terms and conditions of the loans students receive under the Direct Loan Program;
- The exit counseling information the school provides and collects for student borrowers; and
- Contact information for university 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 and Scholarships Office, Joyal Administration Building (North Lobby), 559.278.2182 or online at <https://studentaffairs.fresnostate.edu/financialaid/resources/budget/index.html> and includes:

- Tuition and fees;
- The estimated costs of books and supplies;
- Estimates of typical student room, board, and transportation costs; and
- If requested, additional costs for specific programs.

Information concerning refund policies of California State University, Fresno for the return of unearned tuition and fees or other refundable portions of institutional charges is available 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 <https://adminfinance.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 and Scholarships Office, Joyal Administration Building (North Lobby), 559.278.2182 or online at <https://studentaffairs.fresnostate.edu/financialaid/resources/budget/index.html>.

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

Information concerning the prevention of drug and alcohol abuse and rehabilitation programs may be obtained from Student Health and Counseling 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, University Library, Harold H. Haak Administrative Center, Fourth Floor, 559.278.3906. Additional information is available at <http://www.fresnostate.edu/oie/>.

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 may be obtained from the Office of the Vice President for Student Affairs and Enrollment Management, Joyal Building, Room 262, 559.278.2541.

Information concerning student activities that California State University, Fresno provides, must be easily accessible on <https://studentaffairs.fresnostate.edu/studentinvolvement/>.

Information concerning student body diversity at California State University, Fresno, including the percentage of enrolled, full-time students who are (1) male, (2) female, (3) Pell Grant recipients, and (4) self-identified members of a specific racial or ethnic group, must be obtained from the Office of Institutional Effectiveness, 559.278.3906.

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 30 days of their 18th birthday. Most males between the ages of 18 and 25 must be registered. 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. For more information on the Selective Service System and to initiate the registration process, visit the official Selective Services System website.

Information concerning policies regarding the way education overpayments and debts are handled by the Department of Veterans Affairs (VA) under Public Law 116-315 Section 1019 is available from the Veterans Resource Center atfsveterans@mail.fresnostate.edu.

Information concerning the undergraduate academic programs of California State University, Fresno may be obtained from the Office of the Dean of Undergraduate Studies, University 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 Research and Graduate Studies, Frank W. Thomas Building, Room 130. You may call 559.278.2448. Additional information is available at <https://academics.fresnostate.edu/drgs/>.

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 withdrawal procedures is available from the Office of the University Registrar at 559.278.4743. See Registration section for more detailed information regarding the drop policy, procedure, and deadlines.

Prior to withdrawing from the university, students who receive financial aid funds must consult with Financial Aid and Scholarships 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. Military withdrawal due to active orders, please contact the Veterans Resource Center for additional information or assistance at fsveterans@mail.fresnostate.edu or call 559.278.6036.

Honors College - The Smittcamp Family Honors College

Saeed Attar, Director
McLane Building, Room 200
2345 East San Ramon Avenue,
M/S MH128
Fresno, CA 93740-8031
Phone: 559.278.8160
FAX: 559.278.8162
E-mail: honors@csufresno.edu
<https://academics.fresnostate.edu/honors/>

The Honors College

Now in its 25th year of operation, the Smittcamp Family Honors College provides academically talented and motivated students with a distinctive course of study at Fresno State. Selected Scholars will participate in the activities related to earning University Honors and have the opportunity to earn additional honors via College/School Honors or Department Honors, as follows:

University Honors. A degree with university honors is based primarily on General Education honors studies with a minimum of 24 lower-division and 12 upper-division units. All honors courses are specially designed and are available only to Scholars in the Smittcamp Family Honors College. Scholars take these courses together as an honors learning community (cohort). To maximize interaction with the Honors faculty and to generate a unique learning experiences, all honors courses are capped at 25 students. In addition to taking the honors courses, Scholars perform service to the university and the community, maintain high levels of academic achievement (as measured by cumulative grade point average), and are involved in scholarly activity under the mentorship of faculty members in their respective fields. Honors students who meet these goals (including a minimum GPA of 3.5 at graduation) receive special distinction at graduation, including University Honors certification on their transcripts. Honors programs are also offered at the college/school and department levels.

College/School Honors. College or school honors are earned at the upper-division level. Students may pursue a special program of advanced study within their chosen discipline. The College of Arts and Humanities, College of Health and Human Services, College of Social Sciences, Craig School of Business, and Jordan College of Agricultural Sciences all offer honors programs at this level.

Department Honors. Some individual departments offer honors programs within their majors. Credit for department honors is earned at the upper-division level. Receiving department honors usually requires advanced study above the norm for the major, with credit earned as independent study in an area of inquiry related to the Scholar's major. Biology, Chemistry, Criminology, and Psychology currently offer department honors.

Honors Colloquium

All Honors College Scholars participate in five semesters of the Honors Colloquium. Designed around the concept of the "town meeting," the colloquium presents a weekly opportunity for students to interact with experts and authorities on a wide range of topics. From student issues to presidential politics, the colloquium provides students with global perspectives and local solutions. The colloquium gives honors students the chance to interact with, question, and be inspired by leaders on campus, in the community, and around the world including the current Honors College Scholars as well as its alumni.

Scholarships

Every Smittcamp Family Honors College Scholar receives a President's Honors Scholarship (the dollar value of which is set annually by the Honors Council, the governing body of the Honors College) for up to 8 semesters of undergraduate studies; this scholarship is set at \$6,000 for the 2023-24 academic year. In addition, the Smittcamp Family Honors College will award a Housing Stipend to any scholar who chooses to live on-campus in order to offset the related cost. The dollar value of this Stipend is set by the University Housing Office at \$5,596 for the 2023-24 academic year (\$2,798 per semester). All President's Honors Scholarship recipients are expected to keep a full-time status (a minimum of 12 undergraduate units per semester. Additional scholarship funds may be available via the college/school or department honors programs.

The Smittcamp Family Honors College was originally funded with a generous \$1 million gift from the late Earl and Muriel Smittcamp and family. Earl Smittcamp, a prominent agribusiness leader, graduated from California State University, Fresno in 1939. Earl and Muriel, also a Fresno State graduate, have four children - all alumni of Fresno State - and 14 grandchildren. Earl Smittcamp and his family demonstrate the leadership excellence, innovative thinking, and personal daring honors graduates strive to achieve. The Smittcamps exemplify their belief that education is really dependent upon what an individual makes of it and that "excellence" is never accepting less than the best from yourself. The Honors College owes its existence to their generous and continued support as well as to those of other donors.

Policies

Privacy Rights of Students in Education Records

The federal Family Educational Rights and Privacy Act of 1974 (20 U.S.C. 1232g) (FERPA) and regulations adopted thereunder (34 C.F.R. 99) set out requirements designed to protect students' privacy in their educational records maintained by the university. The statute and regulations govern access to certain student records maintained by the campus and the release of those records. FERPA provides that the university must give students access to most records directly related to the student, and must also provide opportunity to correct the records if the student believes the records are inaccurate, misleading, or otherwise inappropriate. The right to petition to correct a record under FERPA does not include any right to challenge the appropriateness of a grade determined by the instructor. FERPA generally requires the university obtain a student's written consent before releasing personally identifiable data pertaining to the student. The university has adopted a set of policies and procedures governing implementation of FERPA and the regulations. Copies of these policies and procedures may be obtained at the Office of the University Registrar. Among the information included in the campus statement of policies and procedures is:

1. The student records maintained and the information they contain;
2. The university official responsible for maintaining each 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. Procedure for challenging the content of student records; and
7. The student's right 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.

FERPA authorizes the university to release "directory information" pertaining to students. "Directory information" may include the student's name, photograph, major field of study, participation in officially recognized activities and sports, weight and height of members of athletic teams, enrollment status, degrees, honors, and awards received, and the most recent previous educational agency or institution the student attended. The campus may release this "directory information" at any time unless the university has received prior written objection from the student specifying the information the student requests not be released. Written objections must be sent to the Office of the University Registrar. For additional questions or concerns, contact the Office of the University Registrar, Joyal Administration Building, Room 106 or visit the FERPA website.

The university is authorized to provide access to student records without prior student consent to campus officials, employees and others who have legitimate educational interests in such access. These persons include those with legitimate reasons to access student records to perform the university's academic, administrative or service functions, and those with a reason for accessing student records associated with their university or other related academic responsibilities. Student records will also be disclosed to the CSU Chancellor's Office to conduct research, to analyze trends, or to provide other administrative services. 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 (IRS) 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 COVID-19 Vaccination Policy

COVID-19 vaccinations are recommended as a safety measure to help prevent serious illness, but CSU students and employees will no longer be required to be fully vaccinated. Students and employees are required to continue to comply with all other health and safety measures (e.g., COVID-19 surveillance testing, face coverings, physical distancing, etc.) established by the campus, or federal/state/local laws and regulations, as appropriate.

CSU Immunization Requirements

All incoming students starting in or after Fall 2023 will need to submit proof of immunizations. Please note that you will not be able to submit proof of immunizations until you have created your Fresno State student email account.

The California State University (CSU) is committed to the protection of health and wellness of all students. To comply with this overarching goal, Fresno State requires that students are current for the immunizations listed below and undergo screening/risk assessment for tuberculosis:

- **Measles, Mumps and Rubella (MMR):** Two (2) doses with first dose on or after 1st birthday; OR positive titer (laboratory evidence of immunity to disease).
- **Hepatitis B (Hep B):** All new students who will be 18 years of age or younger at the start of their first term at a CSU 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. If you need further details please consult the Student Health Center, 559.278.2734.
- **Varicella (Chickenpox):** Two (2) doses with first dose on or after 1st birthday; OR positive titer (laboratory evidence of immunity to disease) prior to enrollment.
- **Tetanus, Diphtheria, Pertussis (Tdap):** One (1) dose after age 7.
- **Meningococcal conjugate (Serogroups A, C, Y, & W-135):** One (1) dose on or after 16 for all students and age 21 or younger.
- **Tuberculosis Screening/Risk Assessment:** All incoming students must complete a Tuberculosis risk questionnaire. Incoming students who are at higher risk* for TB infection, as indicated by answering "yes" to any of the screening questions, should undergo either skin of blood testing for TB infection.

*Higher risk include travel or living in South or Central America, Africa, Asia, Eastern Europe, and the Middle East; prior positive TB test; or exposure to someone with active TB disease.

The above are **not** admission requirements but are required of students as conditions of enrollment in CSU

Adults 19 years of age and older who are uninsured or under-insured may be eligible to receive vaccines through Fresno County's Health Department through the Vaccines for Adults (VFA) program.

For more information, please visit the Student Health and Counseling Center Immunizations website.

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 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 Technology ServiceDesk at 559.278.5000.

Nondiscrimination Policy and Complaint Procedures

Protected Status: Age, Genetic Information, Marital Status, Medical Condition, Nationality, Race or Ethnicity (including color, caste, or ancestry), Religion or Religious Creed, and Veteran or Military Status. California State University does not discriminate on the basis of age, genetic information, marital status, medical condition, nationality, race or ethnicity (including color, caste, and ancestry), religion (or religious creed), and veteran or military status - as these terms are defined in the CSU Policy Prohibiting Discrimination, Harassment, Sexual Misconduct, Sexual Exploitation, Dating Violence, Domestic Violence, Stalking, and Retaliation (Nondiscrimination Policy) in its programs and activities, including admission and access. Federal and state laws, including Title VI of the Civil Rights Act of 1964 and the California Equity in Higher Education Act, prohibit such discrimination. The following employee has been designated to coordinate the efforts of Fresno State to comply with all applicable federal and state laws prohibiting discrimination on these bases. Marylou Mendoza-Miller, Associate Vice President for 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 Policy Prohibiting Discrimination, Harassment, Sexual Misconduct, Sexual Exploitation, Dating Violence, Domestic Violence, Stalking, and Retaliation (Nondiscrimination Policy) Made Against a Student, (or any successor policy) is the systemwide procedure for all complaints or discrimination, harassment or retaliation made against other CSU students. CSU Policy Prohibiting Discrimination, Harassment, Sexual Misconduct, Sexual Exploitation, Dating Violence, Domestic Violence, Stalking, and Retaliation (Nondiscrimination Policy) Made Against an Employee or Third-Party (or any successor procedure) is the system wide procedure for all complaints of discrimination, harassment or retaliation made against the CSU, a CSU employee or a third party).

Protected Status: Disability. The California State University does not discriminate on the basis of disability (physical and mental) - as this term is defined in the CSU Policy Prohibiting Discrimination, Harassment, Sexual Misconduct, Sexual Exploitation, Dating Violence, Domestic Violence, Stalking, and Retaliation (Nondiscrimination Policy) - in its programs and activities, including admission and access. Federal and state laws, including sections 504 and 508 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990, prohibit such discrimination. 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/SJA41, Joyal Administration Building 211, Fresno, CA 93740, 559.278.3929.

CSU Policy Prohibiting Discrimination, Harassment, Sexual Misconduct, Sexual Exploitation, Dating Violence, Domestic Violence, Stalking, and Retaliation (Nondiscrimination Policy) Made Against a Student (or any successor procedure) is the systemwide procedure for all complaints of discrimination, harassment or retaliation **made against, other CSU students.** CSU Policy Prohibiting Discrimination, Harassment, Sexual Misconduct, Sexual Exploitation, Dating Violence, Domestic Violence, Stalking, and Retaliation (Nondiscrimination Policy) Made Against an Employee or Third-Party (or any successor procedure) is the systemwide procedure for all complaints of discrimination, harassment or retaliation **made against the CSU, a CSU employee or a third party.**

Protected Status: Gender (or sex), Gender Identity (including nonbinary and transgender), Gender Expression and Sexual Orientation.

The California State University does not discriminate on the basis of gender (or sex), gender (including nonbinary and transgender), gender expression or sexual orientation -- as these terms are defined in CSU policy -- in its programs and activities, including admission and access. Federal and state laws, including Title IX of the Education Amendments of 1972, prohibit such discrimination. Jamie Pontius-Hogan, Director of Title IX and Clery Compliance, has been designated to coordinate the efforts of Fresno State to comply with all applicable federal and state laws prohibiting discrimination on these bases.

The California State University is committed to providing equal opportunities to all CSU students in all university programs, including intercollegiate athletics. CSU Policy Prohibiting Discrimination, Harassment, Sexual Misconduct, Sexual Exploitation, Dating Violence, Domestic Violence, Stalking, and Retaliation (Nondiscrimination Policy) Made Against an Employee or Third-Party (or any successor procedure) is the systemwide procedure for all complaints of discrimination, harassment or retaliation made against the CSU, a CSU employee or a third party.

Inquiries concerning compliance may be presented to:

Jamie Pontius-Hogan
Director of Title IX and Clery Compliance
Harold H. Haak Administrative Center
5200 N. Barton Avenue M/S ML52
Fresno, CA 93740
Email: jphogan@csufresno.edu
Telephone: 559.278.5357

As a matter of federal and state law and California State University policy, the following types of conduct are prohibited:

- **Sex Discrimination or Gender Discrimination** is (an) adverse action taken against a complainant because of their protected status (sex or gender).
- **Adverse Action** means an action engaged in by the respondent that has a substantial and material adverse effect on the complainant's ability to participate in a university program, activity, or employment. Minor or trivial actions or conduct not reasonably likely to do more than anger or upset a complainant does not constitute an adverse action.
- **Sexual Harassment** means unwelcome verbal, nonverbal or physical conduct of a sexual nature that includes, but is not limited to, sexual advances, requests for sexual favors, offering employment benefits or giving preferential treatment in exchange for sexual favors, or indecent exposure, and any other conduct of a sexual nature where:
 1. Submission to, or rejection of, the conduct is explicitly or implicitly used as the basis for any decision affecting a Complainant's academic status or progress, or access to benefits and services, honors, programs, or activities available at or through the university; or

2. Submission to, or rejection of, the conduct by the Complainant is explicitly or implicitly used as the basis for any decision affecting a term or condition of the Complainant's employment, or an employment decision; or
3. The conduct is sufficiently severe, persistent, or pervasive that its effect, whether or not intended, could be considered by a reasonable person in the shoes of the Complainant, and is in fact considered by the Complainant, as limiting their ability to participate in or benefit from the services, activities or opportunities offered by the university; or
4. The conduct is sufficiently severe, persistent, or pervasive that its effect, whether or not intended, could be considered by a reasonable person in the shoes of the Complainant, and is in fact considered by the Complainant, as creating an intimidating, hostile or offensive environment.

Sexual Harassment could include being forced to engage in unwanted sexual contact as a condition of membership in a student organization or in exchange for a raise or promotion; being subjected to video exploitation or a campaign of sexually explicit graffiti; or frequently being exposed to unwanted images of a sexual nature in a work environment, or in a classroom where the images are unrelated to the coursework.

Claiming that the conduct was not motivated by sexual desire is not a defense to a complaint or Sexual Harassment.

Sexual and/or romantic relationships between members of the university community may begin as consensual, and may develop into situations that lead to Discrimination, Harassment, Retaliation, Sexual Misconduct, Dating or Domestic Violence, or Stalking subject to this policy.

Sexual Misconduct: All sexual activity between members of the CSU 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.

a. Sexual activity includes, but is not limited to:

- kissing
- touching intimate body parts
- fondling
- intercourse
- penetration, no matter how slight, of the vagina or anus with any part or object
- oral copulation of a sex organ by another person.

b. Sexual Misconduct includes, but is not limited to, the following conduct:

- an attempt, coupled with the ability, to commit a violent injury on the person of another because of that person's Gender or Sex,
- the intentional touching of another person's intimate body parts without Affirmative Consent,
- intentionally causing a person to touch the intimate body parts of another without Affirmative Consent,
- using a person's own intimate body part to intentionally touch another person's body without Affirmative Consent,
- any unwelcome physical sexual acts, such as unwelcome sexual touching,
- using physical force, violence, threat, or intimidation to engage in sexual activity,
- ignoring the objections of the other person to engage in sexual activity,
- causing the other person's incapacitation through the use of drugs or alcohol to engage in sexual activity,
- taking advantage of the other person's incapacitation to engage in sexual activity.

c. Intimate body part means the sexual organ, anus, groin, buttocks, or breasts of any person.

d. Sexual activity between a Minor (a person younger than 18 years old) and a person who is at least 18 and two years older than the Minor always constitutes Sexual Misconduct, even if there is Affirmative Consent to all sexual activity. The existence of Affirmative Consent and/or the type of sexual activity may be relevant to the determination of an appropriate Sanction.

e. Persons of all Genders, Gender Identities, Gender Expressions, and Sexual Orientations can be victims of these forms of Sexual Misconduct. Sexual Misconduct can be committed by an individual known to the victim including a person the Complainant may have just met, i.e., at a party, introduced through a friend, or on a social networking website.

Affirmative Consent: Affirmative Consent must be voluntary, and given without coercion, force, threat, or intimidation.

It is the responsibility of each person involved in the sexual activity to ensure Affirmative Consent has been obtained from the other participant(s) prior to engaging in the sexual activity.

Affirmative Consent means an agreement to engage in sexual activity that is:

- informed
- affirmative
- conscious
- voluntary and
- mutual.
- Lack of protest or resistance does not mean there is Affirmative Consent.
- Silence does not mean there is Affirmative Consent.
- 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, mean there is Affirmative Consent.
- Affirmative Consent can be withdrawn or revoked. Consent must be ongoing throughout a sexual activity and can be revoked at any time, including after sexual activity begins. Once consent is withdrawn or revoked, the sexual activity must stop immediately. Consent to one form of sexual activity (or one 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.

Incapacitation: Affirmative Consent cannot be given by a person who is incapacitated. A person is unable to consent when asleep, unconscious, or 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. A person is incapacitated if the person lacks the physical and/or mental ability to make informed, rational decisions. A person with a medical or mental disability may also lack the capacity to give consent.

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 ability, awareness of consequences, and ability to make 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.

Sexual activity with a minor (a person under 18 years old) is not consensual, because a minor is considered incapable of giving consent due to age.

It shall not be a valid excuse that a person affirmatively consented to the sexual activity if the Respondent knew or reasonably should have known that the person was unable to consent to the sexual activity under any of the following circumstances:

- The person was asleep or unconscious;
- The person was incapacitated due to the influence of drugs, alcohol, or medication, so that the person could not understand the fact, nature, or extent of the sexual activity; or
- The person could not understand the fact, nature, or extent of the sexual activity, or was unable to communicate, due to a mental or physical condition.

It shall not be a valid excuse that the Respondent believed that the person consented to the sexual activity under either of the following circumstances:

- The Respondent's belief in Affirmative Consent arose from the intoxication or recklessness of the Respondent; or
- The Respondent did not take reasonable steps in the circumstances known to the Respondent at the time, to ascertain whether the person affirmatively consented.

Dating Violence and Domestic Violence

Dating Violence means physical violence or threat of physical violence committed by a person:

- a. Who is or has been in a social relationship of a romantic or intimate nature with the Complainant; and
- b. Where the existence of such a relationship shall be determined based on a consideration of the following factors:
 - i. The length of the relationship.
 - ii. The type of relationship.
 - iii. The frequency of interaction between the persons involved in the relationship.

Domestic Violence means physical violence or threat of physical violence committed by a current or former spouse or intimate partner of the Complainant, by a person with whom the Complainant shares a child in common, by a person who is cohabitating with or has cohabitated with the Complainant as a spouse or intimate partner, or by a person similarly situated to a spouse of the Complainant.

Physical Violence means physical conduct that intentionally or recklessly threatens the health and safety of the recipient of the behavior, including assault.

Stalking

Stalking means engaging in a Course of Conduct directed at a specific person that would cause a reasonable person to fear for the safety of self or others' safety or to suffer Substantial Emotional Distress. For purposes of this definition:

- **Course of Conduct** means two or more acts, including but not limited to, acts in which one party directly, indirectly, or through third parties, by any action, method, device, or means, follows, monitors, observes, surveils, threatens, or communicates to or about the other party, or interferes with the other party's property.
- **Substantial Emotional Distress** means significant mental suffering or anguish that may but does not necessarily require medical or other professional treatment or counseling.

Prohibited Consensual Relationships

Prohibited Consensual Relationships is a consensual sexual or romantic relationship between an Employee and any Student or Employee over whom they exercise direct or otherwise significant academic, administrative, supervisory, evaluative, counseling, or extracurricular authority.

Retaliation

Retaliation means that a substantial motivating reason for an Adverse Action taken against a person was because the person has or is believed to have:

- Exercised their right under this policy,
- Reported or opposed conduct which was reasonably and in good faith believed to be in violation of this policy,
- Assisted or participated in an investigation/proceeding under this policy, regardless of whether the Complaint was substantiated,
- Assisted someone in reporting or opposing a violation of this policy or assisted someone in reporting or opposing Retaliation under this policy.

Adverse Action means an action engaged in by the Respondent that has a substantial and material adverse effect on the Complainant's ability to participate in a university program, activity, or employment. Minor or trivial actions of conduct not reasonably likely to do more than anger or upset a Complainant does not constitute an Adverse Action.

Retaliation may occur whether or not there is a power of authority differential between the individuals involved.

Additional Prohibited Conduct Definitions

1. **Sexual Harassment** means conduct on the basis of Sex that satisfies one or more of the following:
 - a. An Employee conditioning the provision of an aid, benefit, or service of the University on an individual's participation in unwelcome sexual conduct;
 - b. Unwelcome conduct determined based on the reasonable person standard to be so severe, pervasive, **and** objectively offensive that it effectively denies a person equal access to an Education Program or Activity.
2. **Sexual Assault** includes the following:
 - i. **Rape** is the penetration, or attempted penetration, no matter how slight, of the vagina or anus with any body part or object, or oral penetration by a sex organ of another person, without the Affirmative Consent of the Complainant. Rape also includes the attempted penetration, no matter how slight, of the vagina or anus with any body part or object, or oral penetration by a sex organ of another person, without the Affirmative Consent of the Complainant, with the present ability and the intent to commit Rape.
 - ii. **Fondling** is the touching of the private body parts of another person for the purpose of sexual gratification, without the Affirmative Consent of the victim, including instances where the Complainant is incapable of giving Affirmative Consent because of their age or because of their temporary or permanent mental incapacity.
 - iii. **Incest** is sexual intercourse between persons who are related to each other within the degrees wherein marriage is prohibited by law.

- iv. **Statutory Rape** is sexual intercourse with a person who is under the age of 18 years, the California statutory age of consent. The definition of Affirmative Consent is that which is found above here.
- v. **Dating Violence** means physical violence or threat of physical violence committed by a person:
 - i. who is or has been in a social relationship of a romantic or intimate nature with the Complainant; **and**
 - ii. where the existence of such a relationship shall be determined based on a consideration of the following factors:
 - 1. The length of the relationship.
 - 2. The type of relationship.
 - 3. The frequency of interaction between the persons involved in the relationship.
- 3. **Domestic Violence** means physical violence or threat of physical violence committed by a current or former spouse or intimate partner of the Complainant, by a person with whom the Complainant shares a child in common, by a person who is cohabitating with or has cohabitated with the Complainant as a spouse or intimate partner, or by a person similarly situated to a spouse of the Complainant.
- 4. **Stalking** means engaging in a course of conduct directed at a specific person that would cause a reasonable person to:
 - i. fear or their safety or the safety of others; or
 - ii. suffer substantial emotional distress.

See further information in Fresno State's sexual violence prevention and education statement, Title IX Notice of Nondiscrimination (which includes facts and myths about sexual violence), and Victim's Rights and Options Notice, at <https://titleix.fresnostate.edu/index.html/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. The university Title IX Coordinator is available to explain and discuss the university's complaint process, including the investigation and hearing process; the availability of reasonable supportive measures (both on and off campus regardless of whether the person chooses to report the conduct); the right to file a criminal complaint (for example, in cases of sexual misconduct); how confidentiality is handled; and other related matters. **If you are in the midst of an emergency, please call the police immediately by dialing 9-1-1.**

Fresno State Title IX Coordinator:

Jamie Pontius-Hogan

Director of Title IX and Clery Compliance
University Student Union Suite 316
5280 N. Jackson Avenue M/S SU71
Fresno, CA 93740
Email: jphogan@csufresno.edu
Telephone: 559.278.5357

Cassandra Hanlin

Deputy Title IX Coordinator
University Student Union Suite 316
5280 N Jackson Avenue M/S SU71
Fresno, CA 93740
Email: cassandra.hanlin@csufresno.edu
Telephone: 559.278.2034

Deputy Title IX Coordinator for Athletics

Erin Boele

Atrium Building
5150 N. Barton Avenue M/S RH82
Fresno, CA 93740
Email: eboele@csufresno.edu
Telephone: 559.278.2345 Option 5

University Police

Interim Chief of Police Jennifer Curwick
2311 E. Barstow Avenue
Fresno, CA 93740
jcurwick@csufresno.edu
559.278.8400

Campus Sexual Assault Survivor Advocate (Confidential)

Mindy Kates

5044 N. Barton Avenue, Fresno, CA 93740
Direct Phone Line: 559.278.6796

Student Health Center Phone: 559.278.2734
Email: survivoradvocate@csufresno.edu

Title IX requires the university to adopt and publish complaint procedures that provide for prompt and equitable resolution of gender discrimination complaints, including sexual harassment and misconduct, as well as provide training, education and preventive measures related to sex discrimination. CSU Policy Prohibiting Discrimination, Harassment, Sexual Misconduct, Sexual Exploitation, Dating Violence, Domestic Violence, Stalking, and Retaliation (Nondiscrimination Policy) Made Against a Student (or any successor) is the systemwide procedure for all complaints of discrimination, harassment or retaliation made against, other CSU students. CSU Policy Prohibiting Discrimination, Harassment, Sexual Misconduct, Sexual Exploitation, Dating Violence, Domestic Violence, Stalking, and Retaliation (Nondiscrimination Policy) Made Against an Employee or Third-Party (or any successor procedure) is the systemwide procedure for all complaints of discrimination, harassment or retaliation made against the CSU, a CSU employee or a third party.

Duty to Report. 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 their name remain confidential. The Title IX Coordinator will determine whether confidentiality is appropriate given the circumstances of each such incident. (See confidential reporting options outlined below.)

Regardless of whether an alleged victim of gender discrimination ultimately files a complaint, if the university knows or has reason to know about possible sexual discrimination, harassment or misconduct, it must review the matter to determine if an investigation is warranted. The university must then take appropriate steps to eliminate any gender discrimination/harassment/misconduct, prevent its recurrence, and remedy its effects

U.S. Department of Education, Office for Civil Rights (OCR):

(800) 421-3481 (main office), or (415) 486-5555 (California office), or (800) 877-8339 (TDD) or ocr@ed.gov (main office)
orocr.sanfrancisco@ed.gov (California office)

If you wish to fill out a complaint form online with the OCR, you may do so using the OCR Electronic Complaint Form.

Safety of the University Community Is Primary. The university's primary concern is the safety of its university community members. The use of alcohol or drugs never makes the victim at fault for gender discrimination, harassment or sexual 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 University, Criminal and Civil Consequences of Committing Acts of Sexual Violence. Individuals alleged to have committed sexual misconduct may face criminal prosecution by law enforcement and may incur penalties as a result of civil litigation. In addition, students may face discipline at the university, up to and including suspension or expulsion and withholding of their degrees. Employees may face sanctions up to and including suspension, demotion or dismissal from employment, pursuant to established CSU policies and provisions of applicable collective bargaining unit agreements.

Students who are found responsible by the university with gender discrimination, harassment or sexual misconduct will be subject to discipline, pursuant to CSU Policy Prohibiting Discrimination, Harassment, Sexual Misconduct, Sexual Exploitation, Dating Violence, Domestic Violence, Stalking, and Retaliation (Nondiscrimination Policy) Made Against a Students and the California State University and Student Conduct Procedures (see the Student Conduct Procedures Policy, revised on August 14, 2020, or any successor policy) 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.

In addition, the University may offer reasonable Supportive Measures prior to conclusion of an investigation to reduce or eliminate negative impact and provide available assistance. Examples include: adjustment to work assignments, housing locations, course schedules or supervisory reporting relationship; mutual restrictions on contact between parties; leaves of absence; or campus escorts. These options may be available whether or not the incident is reported to Campus police or law enforcement. The Title IX Coordinator remains available to assist and provide reasonable Supportive Measures requested by you throughout the reporting, investigative, and disciplinary processes, and thereafter.

Confidentiality and Sexual Misconduct, Dating Violence, Domestic Violence and Stalking. The university encourages victims of sexual misconduct, dating violence, domestic violence or stalking to talk to someone about what happened - so they can get the support they need, and so the university can respond appropriately.

Privileged and Confidential Communications.

Physicians, Psychotherapists, Professional Licensed Counselors, Licensed Clinical Social Workers and Clergy - Physicians, psychotherapists, professional, licensed counselors, licensed clinical social workers, and clergy who work or volunteer on or off campus, acting solely in those roles or

capacities as part of their employment, and who provide medical or mental health treatment or counseling (and those who act under their supervision, including all individuals who work or volunteer in their centers and offices) 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 work or volunteer in sexual assault centers, victim advocacy offices, women's centers, gender equity centers, or health centers), may talk to a victim without revealing any information about the victim and the incident of sexual misconduct to anyone else at the university, including the Title IX Coordinator, without the victim's consent. A victim can seek assistance and support from these counselors and advocates without triggering a university investigation that could reveal his/her identity or that a victim disclosed an incident to them. However, see limited exceptions below regarding when sexual assault and domestic violence counselors and advocates must report to local law enforcement agencies. Counselors and advocates should explain these limited exceptions to victims, if applicable.

The University will be unable to conduct an investigation into a particular incident or pursue disciplinary action against a perpetrator if a victim chooses to:

1. Speak only to a physician, professional licensed counselor, licensed clinical social worker, clergy member, sexual assault counselor, domestic violence counselor or advocate; and
2. Maintain complete confidentiality. Even so, these individuals will assist victims in receiving other necessary protection and support, such as victim advocacy, disability services, 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 retaliation occurs.

EXCEPTIONS

Under California law, any health practitioner employed in a health facility, clinic, physician's office, or local or state public health department or clinic is required to make a report to local law enforcement if the health practitioner provides medical services for a physical condition to a patient/victim who the health practitioner knows or reasonably suspects is suffering from:

1. A wound or physical injury inflicted by a firearm; or
2. Any wound or other physical injury inflicted upon a victim where the injury is the result of assaultive or abusive conduct (including sexual misconduct, domestic violence, and dating violence).

This exception does not apply to sexual assault and domestic violence counselors and advocates. Health care practitioners should explain this limited exception to victims, if applicable.

Additionally, under California law, all professionals described above (physicians, psychotherapists, professional counselors, licensed clinical social workers, clergy, and sexual assault and domestic violence counselors and advocates) are mandatory child abuse and neglect reporters, and are required to report incidents involving victims under 18 years of age to local law enforcement. These professionals will explain this limited exception to victims, if applicable.

Finally, some or all of these professionals may also have reporting obligations under California law to:

1. Local law enforcement in cases involving threats of immediate or imminent harm to self or others where disclosure of the information is necessary to prevent the threatened danger; or
2. To the court if compelled by court order or subpoena in a criminal proceeding related to the sexual misconduct, dating or domestic violence, or stalking incident.

If applicable, these professionals will explain this limited exception to victims.

Reporting to University or Local Police. If a victim reports to local or university police about sexual misconduct crimes, 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 their identity be kept confidential, their name will not become a matter of public record. However, even if the victim requests confidentiality of identity, the University Police should specifically ask the victim if the victim's name can be provided to the Title IX Office so that the Title IX Coordinator can contact the victim to discuss supportive measures that can be offered. If a victim gives consent to law enforcement to provide their name to the Title IX

Coordinator, their name will not become a matter of public record. Even if a victim does not give the police permission to provide their name to the Title IX Coordinator, University police will 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 incidents of sexual misconduct when they are on notice of it. When a victim tells the Title IX Coordinator or another university employee about an incident of sexual misconduct, the victim has the right to expect the university to take immediate and appropriate steps to investigate what happened and to resolve the matter promptly and equitably. In all cases, the university strongly encourages victims to report incidents of sexual misconduct directly to the university Title IX Coordinator. As detailed above, in the "Privileged and Confidential Communications" section of this policy, all university employees except physicians, licensed professional counselors, licensed clinical social workers, sexual assault counselors and advocates, must report to the Title IX Coordinator all relevant details about any incidents of sexual misconduct of which they become aware. The university will need to determine what happened - and will need to know the names of the victim(s) and the perpetrator(s), any witnesses, and any other relevant facts, including the date, time and specific location of the incident.

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 violence incident except as otherwise required by law or university policy. A report of sexual misconduct may result in the gathering of extremely sensitive information about individuals in the university 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 their identity remain completely confidential, the Title IX Coordinator will explain that the university cannot always honor that request or 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 the Systemwide Sex Discrimination, Sexual Harassment, Sexual Misconduct, Dating and Domestic Violence, and Stalking Policy (or any successor policy) for further details around confidential reporting, and other related matters.

Additional information related to Fresno State's compliance with Title IX and available resources for students can be found at fresnostate.edu/titleix and information on Rights and Options for Victims of Sexual Misconduct/Sexual Assault, Dating and Domestic Violence, and Stalking can be found at <http://www.fresnostate.edu/adminserv/title-ix/documents/EO-1095%20Attachment%20C%2011.6.pdf>

Additional Resources

• U.S. Department of Education, regional office Office for Civil Rights 50 United Nations Plaza San Francisco, CA 94102 (415) 486-5555	• U.S. Department of Education, national office: Office for Civil Rights (800) 421-3481	• California Coalition Against Sexual Assault 1215 K. Street, Suite 1850 Sacramento, CA 95814 (916) 446-2520

California Coalition Against Sexual Assault Website

1. Domestic and Family Violence, Office of Justice Programs, United States Department of Justice: Intimate Partner Violence
2. National Institute of Justice: Intimate Partner Violence, Office of Justice Programs, United States Department of Justice
3. National Domestic Violence Hotline Website and phone number 1-800-799-SAFE (7233)
4. Office of Violence against Women, United States Department of Justice
5. Centers for Disease Control and Prevention: Intimate Partner Violence

Inquiries Concerning Compliance. Inquiries concerning compliance or the application of these laws to programs and activities of California State University, Fresno, may be referred to the specific campus officer(s) identified above or to the Regional Director of the Office for Civil Rights, United States Department of Education, 50 Beale Street, Suite 7200, San Francisco, California 9410.

Programs Leading to Licensure and Credentialing

California State University programs for professions that require licensure or certification are intended to prepare the student for California licensure and certification requirements. Admission into programs for professions that require licensure and certification does not guarantee that students will obtain a license or certificate. Licensure and certification requirements are set by agencies that are not controlled by or affiliated with the California State University and licensure and certification requirements can change at any time. For example, licensure or credentialing requirements can include evidence of the right to work in the United States (e.g., social security number or tax payer identification number) or successfully passing a criminal background check. Students are responsible for determining whether they can meet licensure or credentialing requirements. The CSU will not refund tuition, fees, or any associated costs, to students who determine subsequent to admission that they cannot meet licensure or credentialing requirements. Information concerning licensure and credentialing requirements are available from the Financial Aid and Scholarships Office 559.278.2182.

The California State University has not determined whether its programs meet other states' educational or professional requirements for licensure and certification. Students planning to pursue licensure or certification in other states are responsible for determining whether, if they complete a California State University program, they will meet their state's requirements for licensure or certification. This disclosure is made pursuant to 34 CFR 766.43(a)(5)(v)(C).

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 university 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 university 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 must be established upon a favorable vote of two-thirds of the students voting in an election held for this purpose (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. A student success fee may be established or adjusted only after the university undertakes a rigorous consultation process and a fee referendum is held with a simple majority favorable vote (Education Code, Section 89712). The student success fee may be rescinded by a majority vote of the students only after six years have elapsed following the vote to implement the fee.

The process to establish and adjust other campus-based mandatory fees requires consideration by the campus fee advisory committee and a consultation or student referendum process as established by California State University Student Fee Policy, Section III (or any successor policy). The university president may use consultation mechanisms if they determine that a referendum is not the best mechanism to achieve appropriate and meaningful consultation, and referendum is not required by the Education Code or Student Success Fee policy. Results of the referendum and the fee committee review are advisory to the university 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 university shall report annually to the chancellor a complete inventory of all campus-based mandatory fees.

For more information or questions, please contact the System Budget Office in the CSU Chancellor's Office at 562.951.4560.

Student Conduct

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

a. University 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 university 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 university community and contribute positively to student and university life

b. Grounds for Student Discipline

Student behavior that is not consistent with the Student Conduct Code is addressed through an educational process that is designed to promote safety and good citizenship and, when necessary, impose appropriate consequences. The following are the grounds upon which student discipline can be based:

- c. Dishonesty, including:
- Cheating, plagiarism, or other forms of academic dishonesty that are intended to gain unfair academic advantage.
 - Furnishing false information to a university official, faculty member, or university office.
 - Forgery, alteration, or misuse of a university document, key, or identification instrument.
 - Misrepresenting one's self to be an authorized agent of the university or one of its auxiliaries.
- d. Unauthorized entry into, presence in, use of, or misuse of university property.
- e. Willful, material and substantial disruption or obstruction of a University-related activity, or any on-campus activity.
- f. 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.
- g. 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.
- h. Disorderly, lewd, indecent, or obscene behavior at a University related activity, or directed toward a member of the university community.
- i. 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.
- j. Hazing or conspiracy to haze. Hazing is defined as any method of initiation or pre- initiation into a student organization or student body, whether or not the organization or body is officially recognized by an educational institution, which is likely to cause serious bodily injury to any former, current, or prospective student of any school, community college, college, university or other educational institution in this state (Penal Code 245.6), and in addition, any act likely to cause physical harm, personal degradation or disgrace resulting in physical or mental harm, to any former, current, or prospective student of any school, community college, college, university or other educational institution. The term "hazing" does not include customary athletic events or school sanctioned events. Neither the express or implied consent of a victim of hazing, nor the lack of active participation in a particular hazing incident is a defense. Apathy or acquiescence in the presence of hazing is not a neutral act and is also a violation of this section.
- k. 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.
- l. 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.
- m. Theft of property or services from the university community, or misappropriation of university resources.
- n. Unauthorized destruction or damage to university property or other property in the university community.
- o. Possession or misuse of firearms or guns, replicas, ammunition, explosives, fireworks, knives, other weapons, or dangerous chemicals (without the prior authorization of the university president) on campus or at a university related activity.
- p. Unauthorized recording, dissemination, or publication of academic presentations (including handwritten notes) for a commercial purpose.
- q. Misuse of computer facilities or resources, including:
- Unauthorized entry into a file, for any purpose.
 - Unauthorized transfer of a file.
 - Use of another's identification or password.
 - Use of computing facilities, campus network, or other resources to interfere with the work of another member of the university community.
 - Use of computing facilities and resources to send obscene or intimidating and abusive messages.
 - Use of computing facilities and resources to interfere with normal university operations.
 - Use of computing facilities and resources in violation of copyright laws.
 - Violation of a university computer use policy.
- r. Violation of any published university policy, rule, regulation or presidential order.
- s. Failure to comply with directions or, or interference with, any university official or any public safety officer while acting in the performance of their duties.
- t. 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.
- u. Violation of the Student Conduct Procedures, including:
- Falsification distortion, or misrepresentation of information related to a student discipline matter.
 - Disruption or interference with the orderly progress of a student discipline proceeding.
 - Initiation of a student discipline proceeding in bad faith.
 - Attempting to discourage another from participating in the student discipline matter.
 - Attempting to influence the impartiality of any participant in a student discipline matter.
 - Verbal or physical harassment or intimidation of any participant in a student discipline matter.
 - Failure to comply with the sanction(s) imposed under a student discipline proceeding.
- v. 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. [Note: At the time of publication, such procedures are set forth in the California State University Student Conduct Procedures Policy (Revised August 14, 2020).

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 university community, or substantially disrupts the functions of 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 liable for either the owner's actual damages along with any profits of the infringer or statutory damages of up to \$30,000 per work infringed. In the case of a willful infringement, a court may award up to \$150,000 per work infringed. (See 17 U.S.C. §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 and fines. (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: University Emergency; Interim Suspension. The president of the university 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 the student is suspended or expelled shall be refunded. If the student is readmitted before the close of the semester, quarter, or summer session in which the student is suspended, no additional tuition or fees shall be required of the student on account of the suspension

During periods of emergency, as determined by the president of the individual university, 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 of the CSUs 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.) Under certain circumstances, willful copyright infringement may 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

On July 1, 2020, the United States Department of Education changed its definition of the student credit hour. Fundamentally, the change shifted responsibility for credit hour compliance to the accreditation agency and/or to the state.

As such, the CSU's accreditor, the WASC Senior College and University Commission (WSCUC), has published its own updated definition of student credit hour and related accreditation processes. The new regulations no longer require an accrediting agency to review an institution's definition of credit hour and an institutions' processes and policies for ensuring the credit hour policy is followed.

The CSU credit hour definition is consistent with federal law (600.2 and 600.4 revised July 1, 2020) and the requirements of the WSCUC. The CSU defines a credit hour as an amount of work represented in stated learning outcomes and verified by evidence of student achievement. Such evidence is an institutionally established equivalency that approximates not less than:

1. One hour of 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 equivalent amount of work over a different amount of time; or
2. At least an equivalent amount of work as required in paragraph 1.a. 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; and
3. Permits an institution, in determining the amount of work associated with a credit hour, to take into account a variety of delivery methods, measurements of student work, academic calendars, disciplines and degree levels. Institutions have the flexibility to award a greater number of credits for courses that require more student work.

As in the past, a credit hour is assumed to be a 50-minute (not 60-minute) period. In some courses, such as those offered online, in which "seat time" does not apply, a credit hour may be measured by an equivalent amount of work, as demonstrated by student achievement.

For purposes of accreditation, all CSUs are required to develop, communicate and implement procedures for regular, periodic review of this credit hour policy to ensure that credit hour assignments are accurate, reliable and consistently applied. WSCUC published new draft guidelines that took effect in June 2021. Universities are responsible for publishing a clearly stated practice or process that ensures they are in compliance with the student credit hour definition.

Career Placement Policy

The Career Development Center may furnish, upon request, information about the employment of students who graduate from programs or courses of study preparing students for a particular career field. Any such data provided must be in a form that does not allow for the identification of any individual student. This information includes data concerning the average starting salary and the percentage of previously enrolled students who obtained employment.

The information may include data collected from either graduates of the university or graduates of all universities 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 may alter the information contained in this publication.

Changes may come in the form of statutes enacted by the Legislature, rules and policies adopted by the Board of Trustees of the California State University, by the chancellor or designee of the California State University, or by the president or designee of the university. 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 university. 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 university or the California State University. The relationship of students to the university 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

As of September 1, 2017, Fresno State, is a tobacco-, smoke- and vapor-free campus. This policy has been adopted by all CSU campuses to improve the health and safety of all students, faculty, staff and visitors. The use of cigarettes, e-cigarettes, cigars, snuff, snus, water pipes, pipes, hookahs, chew, unregulated electronic nicotine delivery systems, and any other non-combustible tobacco products is prohibited.

More information is available online at www.fresnostate.edu/smokefree.

Student Complaint Procedure

Complaints Regarding the CSU. The California State University (CSU) 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 on the Western Association of Schools and Colleges (WASC) website. WASC is the agency that accredits the CSU's academic program
2. If your complaint concerns an alleged violation by CSU of any law that prohibits discrimination, harassment or retaliation based on a protected status (such as age, disability, gender (or sex), gender identity, gender expression, nationality, race or ethnicity (including color, caste, or ancestry), religion or veteran or military status), you may present your complaint as described in Section XVI (Nondiscrimination Policy).
3. If your complaint concerns an alleged violation by the CSU of other state law, including laws prohibiting fraud and false advertising, you may present your claim to the campus president or designee: Dr. Kent Williams, Vice President for the Division of Student Affairs and Enrollment Management, 559.278.2541. See Procedure for Student Complaints-Executive Order No.1063 for details regarding the complaint requirements and complaint process: <https://calstate.policystat.com/policy/6591298/latest/>.
4. Other complaints regarding the CSU may be presented to the university dean of students [or other appropriate administrator], who will provide guidance on the appropriate university 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 university, or by WASC, you may file an appeal with the Assistant Vice Chancellor, Academic and Student Affairs (or designee) at the CSU Chancellor's Office.

This procedure should not be construed to limit any right that you may have to take legal action to resolve your complaint.

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 Interim Vice President for Student Affairs, Dr. Carolyn Coon, 559.278.2541. See Procedure for Student Complaints-Executive Order No. 1063 for details regarding the complaint requirements and complaint process: <https://calstate.policystat.com/policy/6591298/latest/>. 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.

Registration

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.

Major/Program Planning

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. Degree Roadmaps are available for every major. If you are undecided about a major, indicate Undeclared on the appropriate forms until a definite decision is reached. Regular advising is key to the successful and timely completion of a degree. Depending on the major department's procedure, an academic advisor is assigned to each student, or selected by the student. The University Advising Center (Joyal Administration Building, Room 224) advises undeclared majors and those re-deciding on a major. At a minimum, all undergraduate students are expected to review their "roadmap" to graduation with an advisor from their College Advising Center or 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 559-278-1787). It is recommended that all students meet with a faculty advisor once each semester and/or visit the College Advising Centers before registering for classes. A faculty or professional staff advisor assists the student in planning an academic program, but the primary responsibility for meeting all graduation requirements is the student's.

If you are a veteran/active duty, guard or reservist or dependent utilizing a VA Education benefit please contact the Veterans Resource Center for additional advising pertaining to course enrollment.

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 Student Services Center service windows, Joyal Administration Building, North Lobby; postbaccalaureate and graduate changes are done at the Division of Research and Graduate Studies Office.

Change of Major. Undergraduate students who wish to change their major must initiate the process online by visiting the Forms page of the Office of the University Registrar's website. New graduate and postbaccalaureate students should report to the Graduate Admissions Office and continuing graduate and postbaccalaureate students should report to the Division of Research and Graduate Studies Office.

Registration Eligibility

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.

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. For more information on catalog rights, review the "Choice of Catalog" section under the Regulations. Contact Undergraduate Degree Evaluations regarding potential loss of catalog rights if you

remain away from California State University, Fresno more than one calendar year. *Registration is complete only when all class selection through registration is finalized and all fees are paid. See the Office of the University Registrar website for all registration deadline dates.*

Student Standing and Stop Out Eligibility

Continuing undergraduate and graduate students can "stop out" for one semester (simply not enroll for a subsequent term) and maintain registration eligibility without the need to reapply for admission or request a leave of absence. A student who withdraws from the university after the tenth day of instruction is eligible to enroll the following two semesters without reapplying for admission. Undergraduate students with Disqualification Academic Standing are NOT eligible for "stop out" and must reapply for admission. Students should contact the University Advising Center to meet with an Academic Counselor to review the steps for readmission. Graduate students with Disqualification Academic Standing are NOT eligible for "stop out." They may, however, petition for readmission for the immediate subsequent semester, which does not require application for admission through Cal State Apply. Disqualified graduate students who petition for readmission AFTER having been out of attendance for a semester or more, must also reapply for admission through Cal State Apply.

New and returning undergraduate and graduate students cannot "stop out" for one semester until they establish continuing eligibility student status. To gain continuing eligibility into the next semester, a student must be enrolled through the tenth day of instruction. Undergraduate and post-baccalaureate (e.g. credential programs) students follow the same academic standing policies.

Note: Former California State University, Fresno students interested in returning after an absence of two or more semesters must apply for readmission; admission is subject to university enrollment limitations. Returning applicants must adhere to admission filing deadlines and are required to pay the application fee when applying. In addition, continuing and matriculated students may NOT "stop out" to attend Open University.

Military students who were on active orders should contact the Veterans Resource Center for additional information and guidelines regarding readmission at 559-278-6036 or email fsveterans@mail.fresnostate.edu.

Repeating Classes. (see [Academic Regulations section](#)).

Registration Appointment Information

Registration appointment date and time for all continuing students is determined by the number of academic units completed with limited exceptions. After all priority and early registration groups are processed, then assignments are made based on the highest number of completed units. Priority registration is defined for groups who are mandated by law to receive a priority registration appointment in the California Education Code. Early registration is defined for other on-campus groups that have been approved by the Strategic Enrollment Management Committee. See website for additional detailed information.

Open Registration Unit Limits:

- 19 units - students with cumulative GPA 2.5 or above.
- 20-22 units - students with cumulative GPA of 3.0 or above.

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 units, students carrying 12 or more semester units 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)

Undergraduate Students Excess Units. Each semester, students are limited to 18 units during the initial registration period. Beginning on the semester's open registration date (see Registrar's website), students can register for additional units. Undergraduate students are cautioned against registering for more than 18 units without consulting with an advisor, since more than 18 units is generally considered to be an academic overload. A limit of 16 units applies to graduate students (see section below).

Students wanting to enroll in units beyond the limit established by their cumulative GPA during the open registration period can complete an Excess Unit Form. The Excess Unit Form requires an approval signature from the department chair of the student's major. An absolute limit of 22 units (excluding credit by examination units) is enforced. The Excess Unit form is available online by visiting the Forms page of the Office of the University Registrar's website.

Postbaccalaureate Students Excess Units. 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. Students

wanting to enroll in units beyond the established registration limit can submit an approved Graduate Student Petition for Academic Overload form after the open registration period. Form available on the Division of Research and Graduate Studies website.

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 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.

Veterans Benefits Certification

The Office of the University Registrar acts as liaison to the Veterans Administration, the State Department of Veterans Affairs, and other related agencies for veterans, active military, dependents, or guard/reservists eligible to receive educational benefits. A student may obtain information and assistance regarding certification of benefits, processing of Tuition Assistance (TA) paperwork or V.A. Work Study eligibility by contacting the Veterans Resource Center at 559-278-6036 or email fsveterans@mail.fresnostate.edu.

Visitor Enrollment Programs

Intrasystem and Intersystem Enrollment Programs. Fully matriculated students enrolled at any CSU have access to courses at other CSUs on a space available basis unless those universities/programs are impacted. This access is offered without students being required to be admitted formally to the host university and in most cases without paying additional fees. Students should consult their home university academic advisors to determine how such courses may apply to their specific degree programs before enrolling at the host university. 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 the Office of the University Registrar website.

CSU Fully Online. Matriculated students in good standing may request enrollment in one course per term, offered by a CSU host university. Enrollment requests will be granted based on available space, as well as completion of any stated prerequisites. Credit earned at the host university is electronically reported to the student's home university to be included on the student's transcript at the home university. More information is available at the Office of the University Registrar.

CSU Visitor Enrollment. Matriculated students in good standing enrolled at one CSU may enroll at another CSU for one term. Credit earned at the host university is reported at the student's request to the home university to be included on the student's transcript at the home university.

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 university.

Enrollment Restrictions. 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.

Nonattendance. During the first week of classes (or first 5 days of instruction), 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.

Students who decide to drop a class should do so immediately as a courtesy to other students attempting to add and as a courtesy to the faculty. Students must not assume that instructors will exercise their option to submit an Instructor Drop. 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 and may result in responsibility to pay tuition and fees.

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.

Adding Courses. After initial registration, a student may continue to add open 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.

Dropping Courses. A student may drop a course without permission up through the 19th day of instruction and no record is recorded on the student transcript. After the 19th day of instruction, a student may drop a course for a serious and compelling reason. A "W" grade will be recorded for each dropped course after the 19th day of instruction on student transcripts. The reason must be acceptable to and verified by the instructor of record and the department chair in which the course is offered. The student must provide documentation that substantiates the condition.

During the final three weeks of instruction, dropping an individual course is not permitted unless special approval is given by the Dean of Undergraduate/Graduate 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.

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.

Please Note: Adding or dropping classes on or after the first day of instruction may cause additional fees on your account. Please check your student portal for the most updated information. You can also visit the Student Accounts website.

Students who find it necessary 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.

Students who receive financial aid funds should consult with the Financial Aid and Scholarships Office prior to withdrawing from the university regarding any required return or repayment of grant or loan assistance received for that academic term or payment period. Students who have received financial aid and withdraw from the institution during the academic term or payment period may need to return or repay some or all of the funds received, which may result in a debt owed to the institution.

A student not enrolled for two or more consecutive semesters must reapply and pay the application fee. Contact the Undergraduate Degree Evaluations regarding potential loss of catalog rights if you remain away from California State University, Fresno more than one calendar year.

If you are utilizing any VA Education benefit you must contact the Veterans Resource Center at 559-278-6036 or email fsveterans@mail.fresnostate.edu regarding withdrawal and possible overpayment status with the Department of Veterans Affairs.

Consult the Office of the University Registrar website at www.fresnostate.edu/studentaffairs/registrar for specific withdrawal instructions, procedures, deadlines and forms.

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 late add, late change of grading basis, retroactive withdrawal and exceeding the 18-unit withdrawal limit 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 Office of the University Registrar for further information.

The California State University

- The California State University (CSU) is the nation's largest and most diverse four-year public university. With 23 unique universities and seven off-campus centers, the CSU serves approximately 460,000 students and employs more than 56,000 faculty and staff.
- Each year, the university awards nearly 130,000 degrees, changing the trajectory of students' lives by opening doors to opportunities for upward mobility. Nearly one-third of CSU students are the first in their families to attend college and more than half of CSU students are from traditionally underrepresented backgrounds.
- For one of the most affordable tuitions in the country, students learn from world-class faculty, gain valuable hands-on experiences and receive strong career advising, empowering them to become leaders in the changing workforce.
- CSU graduates are serving as leaders in the industries that drive California's economy, including business, agriculture, entertainment, engineering, teaching, hospitality and health care. To learn more, visit the California State University website.

A Tradition of Excellence for More Than Six Decades

Since 1961, the CSU has provided an affordable, accessible and high-quality education to millions of Californians. While each university is unique based on its curricular specialties, location and culture, every CSU is distinguished for the quality of its educational programs. All CSUs are fully accredited, provide a high-quality broad liberal educational program and offer opportunities for students to engage in university life through the Associated Students, Inc., clubs and service learning.

Facts

- Today, one in every 20 Americans with a college degree is a CSU graduate.
- 1 in every 10 employees in California is a CSU graduate.
- The CSU's network of more than 4 million alumni is larger than the population of 23 U.S. states.
- The CSU awards nearly half of the bachelor's degrees earned in California.
- The CSU awards more than one-third of California's undergraduate nursing degrees.
- Between 2016 and 2021, the CSU prepared more of California's teachers than any other state institution.
- About four percent of the nation's teachers graduate from the CSU.
- In 2021-22, CSU students earned more than 20,000 business degrees and more than 7,500 engineering degrees.
- The CSU offers more than 4,000 degree programs that align with the state's workforce demands.
- The CSU's online concurrent enrollment program gives students the ability to enroll in courses offered by other universities in the CSU system.
- Through CSU community engagement centers, 52,000 student volunteers participated in service-learning, contributing 2 million hours of service in 2021-22.

Governance

The CSU is governed by the Board of Trustees, most of whom are appointed by the governor and serve with faculty and student representatives. The CSU chancellor is the chief executive officer, reporting to the board. The presidents serve as the university-level chief executive officers. The trustees, chancellor and presidents develop university-wide educational policy. The presidents, in consultation with the CSU Academic Senate and other university stakeholder groups, render and implement local policy decisions.

CSU Historical Milestones

The individual California State Colleges were established as a system with a Board of Trustees and a chancellor in 1960 by the Donahoe Higher Education Act. In 1972, the system was designated as the California State University and Colleges, and in 1982 the system became the California State University (CSU). Today, the CSU is comprised of 23 member universities, including comprehensive and polytechnic universities and, since July 1995, the California State University Maritime Academy, a specialized university.

The oldest university-San Jos? State University-was founded in 1857 and became the first institution of public higher education in California. The newest-California State University Channel Islands-opened in fall 2002, with freshmen arriving in fall 2003. And in 2022, the CSU in Humboldt became California State Polytechnic University, Humboldt, joining San Luis Obispo and Pomona as the state's third public polytechnical university.

In 1963, the CSU's Academic Senate was established to act as the official voice of CSU faculty in university-wide matters. Also, the California State College Student Presidents Association - which was later renamed the California State Student Association (CSSA), was founded to represent each university student association on issues affecting students.

Through its many decades of service, the CSU has continued to adapt to address societal changes, student needs and workforce trends. While the CSU's core mission has always focused on providing high-quality, affordable bachelor's and master's degree programs, over time the university has added a wide range of services and programs to support student success - from adding health centers and special programs for veterans to building student residential facilities to provide a comprehensive educational experience.

In 2010, in an effort to accommodate community college transfer students, the CSU, in concert with the California Community Colleges (CCC), launched the Associate Degree for Transfer (ADT), which guarantees CCC transfer students with an ADT admission to the CSU with junior status. The ADT has since proven to be the most effective path to a CSU for community college transfer students. The ADT has since proven to be one of the most effective paths to a CSU for community college transfer students. In 2023, the CSU will launch the Transfer Success Pathway program to guarantee future CSU admission to high school graduates who are entering a California community college and who commit to transferring within three years.

Always adapting to changes in technology and societal trends to support student learning and degree completion, the CSU launched CSU Fully Online, which enables CSU students to complete online courses at other CSU's, expanding enrollment opportunities and providing more educational opportunities for students who may prefer an online format to a traditional classroom setting.

The CSU marked a significant educational milestone when it broadened its degree offerings to include professional doctoral degrees. The CSU independently offers Doctor of Education (Ed.D.), Doctor of Physical Therapy (DPT), Doctor of Audiology (AuD), Doctor of Nursing Practice (DNP) and Doctor of Occupational Therapy (OTD) degree programs. Additionally, the CSU was recently authorized to offer the independent Doctor of Public Health (DrPH). A limited number of other doctoral degrees are offered jointly with the University of California and private institutions in California.

The CSU strives to continually develop innovative programs, services and opportunities that will give students the tools they need to meet their full potential. In 2016, the CSU system launched Graduation Initiative 2025, a bold plan to support students, increase the number of California's graduates earning high-quality degrees and eliminate achievement and equity gaps for all students. Through this initiative, the CSU is ensuring that all students have the opportunity to graduate according to their personal goals, positively impacting their lives, families and communities.

By providing an accessible, hands-on education that prepares graduates for career success, the CSU has created a network of alumni so extensive and renowned that it spans across the globe. More than 4million CSU alumni are making a difference in the lives of the people of California and the world.

Trustees of the California State University

Ex Officio Trustees

The Honorable Gavin Newsom
Governor of California

The Honorable Eleni Kounalakis
Lieutenant Governor of California

The Honorable Anthony Rendon
Speaker of the Assembly

The Honorable Tony Thurmond
State Superintendent of Public Instruction

Dr. Jolene Koester
Interim Chancellor of The California State University

Officers of The Trustees

The Honorable Gavin Newsom - President
Wenda Fong - Chair
Jack B. Clarke Jr. - Vice Chair

Andrew Jones - Secretary
Steve Relyea - Treasurer

Appointed Trustees

Appointments are for a term of eight years, except student, alumni, and faculty trustees whose terms are for two years. Terms expire in the year in parentheses. Names are listed alphabetically.

Larry L. Adamson (2024)	Diana Aguilar-Cruz (2024)
Diego Arambula (2028)	Jack B. Clarke Jr. (2027)
Douglas Faigin (2025)	Jean P. Firstenberg (2026)
Wenda Fong (2024)	Leslie Gilbert-Lurie (2030)
Lillian Kimbell (2024)	Maria Linares (2023)
Julia I. Lopez (2028)	John "Jack" McGrory (2023)
Anna Ortiz-Morfit (2025)	Yammilette Rodriguez (2029)
Romey Sabalius (2023)	Lateefah Simon (2027)
Christopher J. Steinhäuser (2026)	Jose Antonio Vargas (2030)

Correspondence with Trustees should be sent to: c/o Trustees Secretariat, The California State University, 401 Golden Shore, Long Beach, California 90802-4210.

Office of the Chancellor

The California State University
401 Golden Shore
Long Beach, California 90802-4210
562.951.4000

- Dr. Jolene Koester - Interim Chancellor
- Mr. Steve Relyea - Executive Vice Chancellor and Chief Financial Officer
- Mr. Andrew Jones - Executive Vice Chancellor, General Counsel
- Ms. Leora D. Freeman - Vice Chancellor, Human Resources
- Mr. Vlad Marinescu - Vice Chancellor and Chief Audit Officer
- Dr. Nathan Evans - Deputy Vice Chancellor, Academic and Student Affairs
- Dr. Dilcie Perez - Deputy Vice Chancellor, Academic and Student Affairs
- Ms. Jessica Darin - Interim Chief of Staff
- Ms. Michelle Kiss - Associate Vice Chancellor and Chief of Staff, Board of Trustees

The California State University System

California State University, Bakersfield 9001 Stockdale Highway Bakersfield, CA 93311-1022 Dr. Lynnette Zelezny, President 661.654.2782 https://www.csub.edu/	California State University, Channel Islands One University Drive Camarillo, CA 93012 Dr. Richard Yao, President 805.437.8400 https://www.csuci.edu/

California State University, Chico 400 West First Street Chico, CA 95929 Dr. Gayle E. Hutchinson, President 530.898.4636 https://www.csuchico.edu/	California State University, Dominguez Hills 1000 East Victoria Street Carson, CA 90747 Dr. Thomas A. Parham, President 310.243.3696 https://www.csudh.edu/
California State University, East Bay 25800 Carlos Bee Boulevard Hayward, CA 94542 Dr. Cathy A. Sandeen, President 510.885.3000 https://www.csueastbay.edu/	California State University, Fresno 5241 North Maple Avenue Fresno, CA 93740 Dr. Sa?l Jim?nez-Sandoval, President 559.278.4240 https://www.fresnostate.edu/
California State University, Fullerton 800 North State College Boulevard Fullerton, CA 92831-3599 Mr. Framroze Virjee, President 657.278.2011 http://www.fullerton.edu/	California State Polytechnic University, Humboldt 1 Harpst Street Arcata, CA 95521-8299 Dr. Tom Jackson, Jr., President 707.826.3011 https://www.humboldt.edu/
California State University, Long Beach 1250 Bellflower Boulevard Long Beach, CA 90840-0115 Dr. Jane Close Conoley, President 562.985.4111 https://www.csulb.edu/	California State University, Los Angeles 5151 State University Drive Los Angeles, CA 90032 Dr. William A. Covino, President 323.343.3000 https://www.calstatela.edu/
California Maritime Academy 200 Maritime Academy Drive Vallejo, CA 94590 Rear Admiral Thomas A. Cropper, President 707.654.1000 https://www.csum.edu/	California State University, Monterey Bay 100 Campus Center Seaside, CA 93955-8001 Dr. Eduardo M. Ochoa, President 831.582.3000 https://csumb.edu/
California State University, Northridge 18111 Nordhoff Street Northridge, CA 91330 Dr. Ericka D. Beck, President 818.677.1200 https://www.csun.edu/	California State Polytechnic University, Pomona 3801 West Temple Avenue Pomona, CA 91768 Dr. Soraya M. Coley, President 909.869.7659 https://www.cpp.edu/index.shtml
California State University, Sacramento 6000 J Street Sacramento, CA 95819 Dr. Robert S. Nelsen, President 916.278.6011 https://www.csus.edu/	California State University, San Bernardino 5500 University Parkway San Bernardino, CA 92407-2318 Dr. Tom?s D. Morales, President 909.537.5000 https://www.csusb.edu/
San Diego State University 5500 Campanile Drive San Diego, CA 92182 Dr. Adela de la Torre, President 619.594.5200 https://www.sdsu.edu/	San Francisco State University 1600 Holloway Avenue San Francisco, CA 94132 Dr. Lynn Mahoney, President 415.338.1111 https://www.sfsu.edu/
San Jos? State University One Washington Square	California Polytechnic State University, San Luis Obispo One Grand Avenue

San Jos?, CA 95192-0001 Dr. Stephen Perez*, President 408.924.1000 https://www.sjsu.edu/	San Luis Obispo, CA 93407 Dr. Jeffrey D. Armstrong, President 805.756.1111 https://www.calpoly.edu/
California State University, San Marcos 333 South Twin Oaks Valley Road San Marcos, CA 92096-0001 Dr. Ellen J. Neufeldt, President 760.750.4000 https://www.csusm.edu/	Sonoma State University 1801 East Cotati Avenue Rohnert Park, CA 94928 Dr. Judy K. Sakaki, President 707.664.2880 http://www.sonoma.edu/
California State University, Stanislaus One University Circle Turlock, CA 95382 Dr. Ellen N. Junn, President 209.667.3122 https://www.csustan.edu/	<i>*Interim</i>

International Programs

Developing inter-cultural communication skills and international understanding among its students is a vital mission of the California State University (CSU). Since its inception in 1963, the CSU International Programs (CSU IP) has contributed to this effort by providing qualified students an affordable opportunity to continue their studies abroad for a full academic year in all programs and a semester option in some countries and programs.

More than 20,000 CSU students have taken advantage of this unique study option. Also, through the CSU IP exchange partnerships, more than 5,000 international students have come to study at the CSU.

International Programs participants earn resident academic credit at their home university while they pursue full-time study at a host university or study center abroad. CSU IP serves the needs of students in more than 100 designated academic majors. Affiliated with nearly 60 recognized universities and institutions of higher education in 18 countries, CSU IP also offers a wide selection of study abroad destinations and learning environments.

Country	Universities and Institutions
Australia	Griffith University, Macquarie University, Queensland University of Technology, University of Queensland, Western Sydney University
Canada	Concordia University
Chile	Pontificia Universidad Cat?lica de Chile
China	Peking University (Beijing)
Denmark	Danish Institute for Study Abroad
France	Institut Catholique de Paris, Institut Sup?rieur d'Electronique de Paris, Universit? d'Aix-Marseille (Aix-en-Provence), Universit? de Cergy-Pontoise, Universit?s de Paris I, III, IV, VI, VII, VIII, X, XI, XII, XIII, Universit? Paris-Est Marne-la-Vall?e, Universit? d'Evry Val d'Essonne, and Universit? de Versailles Saint-Quentin-en-Yvelines
Germany	University of T?bingen and a number of institutions of higher education in the Federal state of Baden-W?rttemberg

Ghana	University of Ghana
Israel	University of Haifa
Italy	CSU Florence Study Center, Accademia di Belle Arti Firenze
Japan	Waseda University, University of Tsukuba
Mexico	Instituto Tecnológico y de Estudios Superiores de Monterrey, Campus Querétaro
South Africa	Nelson Mandela University
South Korea	Yonsei 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, University of Birmingham

Students participating in CSU IP pay CSU tuition and program fees, and are responsible for airfare, accommodations, meals and other personal expenses. Financial aid, with the exception of Federal Work-Study, is available to qualified students and limited scholarship opportunities are also available. All programs require students to maintain good academic and disciplinary standing; many programs are open to sophomores or graduate students. California Community College transfer students are eligible to apply (to select programs) directly from their community colleges. Students must possess a current cumulative grade point average of 2.75 or 3.0, depending on the program, and must fulfill all coursework prerequisites. Additional program information and application instructions can be found on the International Programs Website.

Undeclared Majors

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. In addition, students can contact the Career Development Center (Thomas Building, Room 103, 559.278.2381) to explore careers and various assessments for guidance.

Postbaccalaureate/Graduate. Students who are undeclared must have the approval of the dean of Graduate Studies to be readmitted to the university.

Graduate Studies Regulations

Division of Research and Graduate Studies

Joy J. Goto, Interim Dean
559.278.2448
Frank W. Thomas Building, Room 130
Graduate Studies Website

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. Some of these students also obtain advanced credentials or certificates 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 Research and 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 Research and 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 Research and 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 Research and 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/advisor for a student is responsible for guiding the student in selecting appropriate courses, research problems, and professional experiences. Moreover, the major professor/advisor 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 Research and Graduate Studies is proud of the diversity of its graduate student body. Graduate students come from a variety of ethnic and racial backgrounds. The students also come from many different age groups and represent 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 advisors and instructors. Graduate students are expected to develop the ability to critically seek out and analyze facts, sift through 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, maybe obtained through selection of appropriate elective courses. For more, see master's degrees and doctorates.

Graduate Degrees and Authorized Options

- Agricultural Science, M.S.
- Applied Behavior Analysis, M.A.
- Art, M.A.
- Athletic Training, M.S.
- Biology, M.S.
- Biotechnology, M.Bt.
- Business Administration, M.B.A. ***
- Chemistry, M.S.
- Civil Engineering, M.S. **
Civil Engineering-Water Resources & Environmental Engineering Option, M.S.
- Clinical Rehabilitation and Mental Health Counseling -
Clinical Mental Health Counseling Option, M.S.
Clinical Rehabilitation and Mental Health Counseling -
Clinical Rehabilitation Counseling Option, M.S.
- Communication, M.A.
- Computer Science, M.S.
- Construction Management, M.S.
- Counseling - School Counseling Option, M.S.
Counseling - Student Affairs & College Counseling Option, M.S.
- Creative Writing, M.F.A.
- Criminology, M.S.
- Deaf Education, M.A.***
- Early Childhood Education, M.A.
- Education - Curriculum & Instruction Option, M.A.
Education - Multilingual & Multicultural Education Option, M.A.
Education - Reading/Language Arts Option, M.A.
- Educational Leadership and Administration, M.A.
- Electrical and Computer Engineering, M.S.
- Engineering - Mechanical Engineering Option, M.S.
- English - Literature Option, M.A.
English-Rhetoric and Writing Studies Option, M.A.
- Food and Nutritional Sciences, M.S.
- Geology, M.S.
- Higher Education Administration and Leadership, M.A.
- History, M.A.**
History - Teaching Option, M.A.
- Industrial Technology, M.S.
- Interdisciplinary Studies, Master of Arts
Interdisciplinary Studies, Master of Science
- Kinesiology, M.A.
Kinesiology - Exercise Science Option, M.A.
Kinesiology - Sport Administration Option, M.A.
Kinesiology - Sport Psychology Option, M.A.
- Linguistics, M.A.
Linguistics - TESOL/SLAT (Second Language Acquisition & Teaching) Option, M.A.
- Marriage, Family, and Child Counseling, M.S.
- Mathematics, M.S.
- Music - Music Education Option, M.A.
Music - Performance Option, M.A.
- Nursing - Nurse Practitioner / Primary Care / Family, M.S.
- Physics, M.S.
- Plant Science, M.S.
- Psychology, M.A.
- Public Administration, M.P.A.
- Public Health - Health Promotion Option, M.P.H.
- Social Work, M.S.W.
- Spanish, M.A.
- Special Education, M.A.

- Speech-Language Pathology, M.A.
- Education - Teaching, M.A.T. ***
- Viticulture & Enology, M.S.
- Water Resource Management, M.S. (Continuing & Global Education)***

Certificate of Advanced Study

- Biotechnology, Certificate of Advanced Study ***
- Composition, Certificate of Advanced Study
- Educational Technology - Certificate of Advanced Study
- Geographic Information Systems, Certificate of Advanced Study (Continuing & Global Education)***
- Research Methods - Certificate of Advanced Study
- Linguistics - TESOL/SLAT (Second Language Acquisition & Teaching), Certificate of Advanced Study

Educational Specialist Degree

- Psychology, Ed.S.

Doctoral Degrees

- Educational Leadership CC, Ed.D. ***
- Educational Leadership PK-12, Ed.D. ***
- Nursing, D.N.P.
- Doctor of Physical Therapy, DPT

* Admissions are currently suspended.

** In these programs, a student may earn a degree without also declaring an option.

*** Online studies offered.

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 information is available at <https://academics.fresnostate.edu/drgs/> under the Graduate Student Success Center > Funding Opportunities > DRGS Funding Information link.

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 information is available at <https://academics.fresnostate.edu/drgs/> under Graduate Student Success Center > Funding Opportunities > Travel Grants link.

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 information is available at <https://academics.fresnostate.edu/drgs/> under the Graduate Student Success Center > Funding Opportunities > DRGS Funding Information link.

Robert and Norma Craig Scholarship

These scholarships, 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 information is available at <https://academics.fresnostate.edu/drgs/> under the Graduate Student Success Center > Funding Opportunities > DRGS Funding Information link.

California Predoctoral Program for Undergraduate and Graduate Students

The California Predoctoral 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 information is available at <https://academics.fresnostate.edu/drgs/> under the Graduate Student Success Center > Funding Opportunities > DRGS Funding Information link.

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 studentaffairs.fresnostate.edu/financialaid/scholarships and click on Scholarship Application.

The "priority application" period for "full consideration" of scholarship opportunities has been established as September 1 through March 2.

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.

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 Division of Research and Graduate Studies during the registration period on a Graduate Student Petition for Academic Overload. The form is available online at <https://academics.fresnostate.edu/drgs/>.

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. Delays in submission of application materials

may result in application withdrawal. 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 Frank W. Thomas Building, Room 130) can be reached at 559.278.4073 or at graduateadmissions@mail.fresnostate.edu for any questions regarding admission. For information on the status of an application, students may access the university Student Center at MyFresnoState.ps.fresnostate.edu. Prospective graduate, credential, and advanced certificate students apply to the university online at calstate.edu/apply 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 calstate.edu/apply application process. Those interested in a second undergraduate degree should also apply through calstate.edu/apply using the Graduate Postbaccalaureate Application. Pursuant to Executive Order 1084, postbaccalaureate students (i.e., those who already hold a bachelor's degree) seeking a second baccalaureate degree will only be considered for nursing majors.

Assessment for Special Admission

Section 89030.7 of the California Education Code requires that the CSU 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.

Title 5, Division 5, Chapter 1, Subchapter 3, Article 8 of the California Education Code states that an applicant who does not qualify for admission under the provisions of subdivisions (a) or (b), or both such subdivisions, of Section 41000, may be admitted by special action if on the basis of acceptable evidence the applicant is judged by appropriate campus authority to possess sufficient academic, professional and other potential pertinent to the applicant's educational objectives to merit such action.

Assessment for Special Admission appeal procedures can be found by visiting the Division of Research and Graduate Studies website: <https://academics.fresnostate.edu/drgs/gradstudies/forms/index.html>

Students denied by the program are not eligible to appeal the decision through the Assessment for Special Admission process.

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 CSU 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

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: Clinical Rehabilitation and Mental Health 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 attaining classified standing.

Graduate Classified Standing

This category is granted to those students who fully meet all admission requirements of the Division of Research and 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.calstate.edu/apply 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 <https://academics.fresnostate.edu/drgs/>.

Information concerning the GRE and the MAT are available through the Professional Examination 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 181 and at <https://craig.fresnostate.edu/grad-business/index.html>.

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. 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 Research and Graduate Studies, Frank W. Thomas Building, Room 130, or on the website at <https://academics.fresnostate.edu/drgs/>.

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 Research and 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 Research and 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 Research and 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 Research and Graduate Studies Office, Frank W. Thomas Building, Room 130, or on the website at <https://academics.fresnostate.edu/drgs/>.

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 Research and 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 Research and Graduate Studies, Frank W. Thomas Building, Room 130, or on the website at <https://academics.fresnostate.edu/drgs/>. 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 Research and Graduate Studies or the appropriate certificate program coordinator. Guidelines for the Certificate of Advanced Study (CAS) are also included with the Proposed Program for the Certificate of Advanced Study form, available on the website.

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.

Graduate English Competency

The Division of Research and 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, projects, 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 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), the International English Language Test (IELTS), the Pearson Test of English (PTE), or the International Test of English Proficiency (ITEP). Such applicants must receive a minimum score of 213 on the TOEFL, 80 on the iBT TOEFL, 6.5 on the IELTS, 53 on the PTE, or 4.5 on the ITEP. Some graduate programs may require a higher score.

It is highly recommended that English language proficiency 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 maybe 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 Professional Examination at <https://studentaffairs.fresnostate.edu/examination/index.html>.

Applications for international postbaccalaureate/graduate admission are found online at www.calstate.edu/apply.

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

International Office

California State University, Fresno
5150 North Maple Avenue M/S JA56
Fresno, CA 93740-8026
U.S.A.
international@mail.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. Students should, therefore, meet with their 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. Usually 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: Clinical Rehabilitation and Mental Health Counseling requires classification by the completion of 10 program units.) Not more than one-third of the program units (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 may be required of students working toward the Master of Science in Mathematics. Students should check with their graduate program coordinator. 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, kinesiology, and linguistics.

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. 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 advisor 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 Research and 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 advisors 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 Research and Graduate Studies website at <https://academics.fresnostate.edu/drgs/>. On the advancement petition, students, in consultation with their advisors, list a cohesive set of courses which, when approved, will constitute their degree program. Students are responsible for adhering to deadlines established by the Division of Research and Graduate Studies for the submission of advancement petitions. Approximate deadlines are September 1 (for spring graduation) and February 1 (for summer or fall graduation). Petitions received after the deadline are considered late and will be processed as time allows, and in the order they are received. 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-level; 600-level) and such upper-division courses (100-level; 400-level) 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 Office personnel and the student's graduate program coordinator/director.

Extension Credit. Courses taken through the Division of 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 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.

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 (one-fifth of the total program units) 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 (Foundation, 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 maybe 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. 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 the 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 the student's graduate program advisor (if required) and coordinator/director, and with the approval of the dean, Division of Research and Graduate Studies. Program Adjustment Request forms for degree and certificate programs are available in the Division of Research and Graduate Studies, Frank W. Thomas Building, Room 130, or on the website at <https://academics.fresnostate.edu/drgs/>.

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 Research and 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 Research and 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 more than a semester 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 Research and Graduate Studies. The latter deadlines are approximately late-October (fall), late-March (spring), and mid-June(summer).
6. Before a thesis is officially accepted by the Division of Research and Graduate Studies, it must meet University 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 submitted electronically to the thesis consultant, 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. 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 for the Protection of Human Subjects (CPHS). Guidelines and forms for protocols can be obtained from the departmental office, the CPHS website at fresnostate.edu/academics/humansubjects/, or the Office of the Vice President for Administration. Students should allow at least two to three weeks for a required CPHS review. Proof CITI Human Subjects Protection training is required to be submitted.

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 Research and Graduate Studies. 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; 600-699) Courses. Enrollment in graduate-level (200-297; 600-699) 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 graduate level courses. All criteria listed on the Undergraduate Petition to Enroll in Graduate (200-level) Courses must be met. This petition can be downloaded and printed from the Division of Research and Graduate Studies website. It should be filed prior to the semester in which the student desires enrollment in graduate 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

Students must apply for graduation at their Student Center and pay a non-refundable graduation application fee by the published deadline, which occurs approximately in the first two weeks of the semester or summer. In addition, applicants must be enrolled. (See Continuous Enrollment.) Graduation application procedures and deadlines are available on the website at <https://academics.fresnostate.edu/drgs/>. Prior to applying for the graduate degree to be granted, students should check with their graduate advisor or their graduate program coordinator 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 Research and 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) that the student applies for graduation in, will result in the cancellation of the graduation application that semester, and will necessitate reapplication for graduation, 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 Leave of Absence 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) through regular enrollment 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 Research and 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) through regular enrollment 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 Research and 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 Research and Graduate Studies. Permission and class numbers for GS Continuation and GS 299C must be obtained from the Division of Research and 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 Research and 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 of Research and Graduate Studies website at <https://academics.fresnostate.edu/drgs/gradstudies/prospectivestudents/interdisc-prog.html>.

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 Research and Graduate Studies. Applicants will not be considered for admission until they have consulted with the Division advisor.

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 departments, 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 Research and 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 <https://academics.fresnostate.edu/drgs/gradstudies/forms/index.html>.

Departments

Craig School of Business

About the College

Dr. Julie Olson-Buchanan, Dean
Peters Business Building, Room 183
5245 N. Backer Ave., MS PB-7
Fresno CA 93740-8001
Phone: (559) 278-2482
craig.fresnostate.edu

The Craig School of Business (CSB) empowers future business leaders by helping young professionals embark on successful careers in business and economics. With approximately 3,000 majors, we offer Bachelor's degrees in Business Administration (with 13 different options). Economics, Fashion Merchandising, and both a traditional and executive MBA. The CSB is the first CSU business school to receive a named endowment, a ten million dollar pledge from Sid and Jenny Craig, and the first in the CSU to be accredited by AACSB International in 1959. Our priority for engaged learning experiences is addressed through internships, mentorships, applied projects, service learning, professional events, an international program and a highly involved regional business community.

Mission

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

The **Craig School of Business Advising Center** is located in Peters Building, Room 185. Business students are encouraged to have annual advising sessions to assist in evaluations and graduation requirements.

A mentoring program matches students with a faculty member in their field who will assist with career or graduate study information.

Craig School of Business Interdisciplinary Degrees and Programs

- Business Administration - Special Option, B.S.
- Graduate Business Prep, Minor
- Pre-Business, B.S.

Accountancy

About the Department

Shu Lin, Department Chair
Peters Business Building, Room 284
559.278.2852
FAX: 559.278.4911
craig.fresnostate.edu/acct/

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.

Interesting Classes You Might Take

- Financial Accounting Principles and Systems
- Managerial Accounting Principles and Systems
- Federal Income Taxation of Entities
- and the Federal Uniform Estate and Gift Tax
- Auditing
- Forensic Accounting

What You Can Learn

- Ethics in accounting
- The theory and practice of flowcharting
- Data analytics and visualization for accounting professionals
- How to evaluate internal accounting controls in computer systems environments
- Learn about the interrelationships of people, procedures, and equipment
- Financial accounting for corporate entities

Career Opportunities

Undergraduates with a Bachelor of Science Degree/Accounting Option are trained to pursue numerous career opportunities in Public Accounting (CPA Firms), Private Industry (accounting, audit, or analyst work for Agriculture, Retail, Manufacturing, and Service companies), and Governmental/ Regulatory/ Not for Profit entities (accounting or audit work for federal or state agencies, and charitable organizations).

Accountancy option students often pursue professional certifications/licenses including the CPA state license (state license as a Certified Public Accountant), the CMA (industry designation for management accounting) and the CIA (industry designation for internal auditing).

What You Can Earn:

- Accountant I, \$55,280 (in our region)
- Tax Accountant III, \$85,868 (in our region)
- Cost Accountant II, \$73,777 (in our region)

Source: HR reported data at salary.com as of January 2021

Economics

About the Department

Antonio Avalos, Department Chair
 Peters Business Building, Room 385
 559.278.3916
 Email Economics
craig.fresnostate.edu/econ/

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, 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.

Interesting Classes You Might Take

- History of Economic Thought
- Environmental Economics
- Economic Development of Poor Nations
- Money and Banking

What You Can Learn

- Economic effects of military expenditures in historical perspective
- The social and economic forces shaping the economic status of women in the U.S.
- The monetary and banking system of the United States
- Evolution of economics as a science

Career Opportunities

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.

Graduates of the department pursue a variety of challenging careers in industry, finance, education, government and international organizations. Students completing our major have found opportunities in local and state businesses, multinational corporations and government agencies. The B.A. in Economics is also an excellent foundation for graduate school in public policy, public administration, business, law and economics. An increasing number of Economics majors and minors are attending graduate school. Some recent placements include University of Wisconsin Madison (Ph.D. in Agricultural Economics), University of Nebraska (Ph.D. in Economics), USC (Ph.D. in Health Economics), Harvard University (Ph.D. Public Policy), University of Denver (M.A. in Economics), UC Santa Cruz (M.A. in Applied Economics), London School of Economics (M.A. in International Relations).

Careers for professional economists

- According to Bureau of Labor Statistics Occupational Handbook, as of 2021, the largest employers of economists were as follows:
 - Federal government, excluding postal service
 - Management, scientific, and technical consulting services
 - Scientific research and development services
 - State government, excluding education and hospitals
 - Finance and insurance
- There are also a significant number of jobs in education at the state and local level.

Find Your Job in Economics

- AfterCollege.com
- Econ-Jobs.com
- Pursue graduate studies in law, social work, international relations, public administration, and policy

Finance and Business Law

About the Department

Jennifer Miele, Department Chair
Peters Business Building, Room 285
559.278.2341
FAX: 559.278.3326
<https://craig.fresnostate.edu/fbl/>

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.
- **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.

Interesting Classes You Might Take

- Global Business
- Law for Entrepreneurs
- Personal Financial Planning
- Legal & Ethical Aspects of Sports Marketing

What You Can Learn

- Evolution of international business, dealing with changing cultures, and variations within cultures
- Legal issues in managing technology
- Government and social control of private enterprise

Career opportunities

Career opportunities in finance include, but are not limited to, the following:

- corporate finance - financial analyst, financial planning, project finance;
- portfolio management - security analyst, stockbroker, investment banker, portfolio manager; and
- banking and financial institutions - commercial and residential loan officers, trust officer, marketing officer.

What You Can Earn:

- Financial Analyst I, \$63,519 (our region)
- Securities Analyst, \$129,039 (our region)
- Commercial Loan Officer I, \$70,301 (our region)

Source: HR reported data on salary.com as of February 2023

Graduate Business Program

About the Program

Zhanna Sahatjian, Program Director
 Renee Chu-Jacoby, Associate Program Director
 Peters Business Building, Room 181
 559.278.2107
 mbainfo@csufresno.edu
 craig.fresnostate.edu/grad-business

The M.B.A. program is designed to provide advanced education for managers who work in business or other industries. The program offers elective courses in areas of professional practice such as entrepreneurship, finance, general management, human resource management, international business, information systems and marketing. Our curriculum is complemented by the opportunity to solve real world business problems through internships and team consulting projects.

Information Systems and Decision Sciences

About the Department

Ojoung Kwon, Department Chair
5245 N. Backer
Peters Business Building, Room 287
559.278.2823
craig.fresnostate.edu/isds/

The Department of Information Systems and Decision Sciences prepares students for the rapidly growing fields of Information Systems and Technology and Data Analytics for Decision-Making. Producing new intelligence from raw data, collected by computer-based information systems, can help businesses enhance products and services, and organizations to meet their strategic goals. Computer-based data analysis and information-sharing lead to better, more informed decisions. In addition to traditional methods of classroom instruction and guest speakers, students in these options are exposed through hands-on experiences to new developments in computer technology, software, and applications.

Options

Computer Information Systems (CIS) is the practice of developing and maintaining systems to support operations, management, and decision-making. It combines technology, people, and business organizations in a single field. An information system can collect, store, process, analyze, and distribute information with an enterprise-wide view and make it available to all users across functional departments and across organizations to support their business operation and decision-making processes. Topics covered in this option include computer programming, database design, systems analysis and design, computer networks, project management, cloud computing, cybersecurity, mobile and Web application development, business intelligence, artificial intelligence, and machine learning.

Interesting Classes You Might Take

- Web and Mobile App Design
- Artificial Intelligence in Business
- Cyber-Security
- Machine Learning with Python programming
- Topics in Emerging Information Technologies
- System Analysis and Design
- Database SQL programming
- Network Control and Management

What You Can Learn

- Theory and Practice of Computer Information Systems
- Database theory and administration
- Mobile Application Design and Cloud Computing
- Cyber-security and digital privacy
- Artificial Intelligence and Machine Learning with Python Programming
- Computer vision using deep learning technique
- Reinforcement Learning with Python programming
- Deep Reinforcement Learning with Python programming
- System analysis and design

Data Analytics (DA) uses powerful tools and techniques to derive meaning and value from data. As companies are becoming more data-driven, data analytics is now being viewed as an essential area of expertise and as a distinguishable career path. Students learn to analyze data and find patterns to enhance business effectiveness and problem-solving. These skills are essential to make informed decisions to drive business forward and achieve strategic goals. Students learn to become problem-solvers and skilled to analyze data that unlock business opportunities and solutions while keeping the "big picture" in mind. Critical thinking and effective communication are complementary skills developed in this option. Topics covered in this option include decision analysis, data mining, modeling, prediction, artificial intelligence, and machine learning.

Interesting Classes You Might Take

- Data Analytics
- Business Intelligence with spreadsheets
- Data mining and Machine learning
- Geographic Information Systems
- Topics in emerging data science and analytics

What You Can Learn

- Advanced analytics skills and tools
- Practical programming to solve business problems
- Decision optimizations

Career Opportunities

Computer Information Systems provides students with the knowledge, skills, and modern tools in Information Technology. Students will learn about the strategic role of Information Systems in business decision-making. They will also learn how to design systems to solve management problems in all functional areas of business and will help digitally transform organizations. If you like to work with information technology, but also like to apply this technology to practical problems and work with other functional areas of business - marketing, finance, and accounting - a program in information systems may be for you.

Job titles fall into three categories:

- application development
- technical development
- systems support

What You Can Earn

The information systems job market is red hot! Salaries for IS graduates are higher than typical business majors for both Bachelor's and most Master's degrees. IS Bachelor's salaries are 25 % higher than the average offer to all business school Bachelor's graduates [Quoted from IS Job Index, <https://isjobindex.com>]

- Python Machine Learning Developer, \$125K
- Software Developer, \$97K
- Software engineer, \$108K
- Business System analyst, \$87K
- IT project Manager, \$104K
- IT auditor, \$80K
- Information Security Analyst, \$99K
- Cybersecurity Analyst, \$81K
- Software application developer, \$100K
- IT consultant, \$105K

Source: glassdoor.com, February 2022

Data Analytics uses powerful tools and techniques to derive meaning and value from data. As companies are becoming more data-driven, data analytics is now being viewed as an essential area of expertise and as a distinguishable career path. Students learn to analyze data and find patterns to enhance business effectiveness and problem-solving. These skills are essential to make informed decisions to drive the business forward and achieve strategic goals. Students learn to become problem-solvers and are skilled to analyze data that unlock business opportunities and solutions while keeping the "big picture" in mind. Critical thinking and effective communication are complementary skills developed in this option. Topics covered in this option include decision analysis, data mining, modeling, prediction, artificial intelligence, and machine learning.

What You Can Earn

The job opportunities for Data Analytics graduates have never been more numerous. Opportunities in this field typically have a title of Analyst but careers span all industries and functional areas like data analysts, business intelligence, and market research analysts.

- Data analyst, \$64,000
- Data scientist, \$67,000 - \$146,000
- Market research analysts, \$41,000 - \$77,000

Source: Glassdoor, Payscale, Dice as of January 2022

Management

About the Department

Rich DeJordy, Department Chair
Peters Business Building, Room 289

The Department of Management offers three options within the Bachelor of Science in the Business Administration degree program:

1. 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 Solutions Hub, and the Institute for Family Business. Students also have the opportunity to engage with the Water Energy Technology (WET) Center at Fresno State as well as participate in numerous community based internship opportunities and projects.
2. The **Human Resource Management (HRM) Option** explores 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.
3. 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.

Interesting Classes You Might Take

- Introduction to Entrepreneurship
- Managing the New Venture
- Franchising
- The Staffing of Organizations

What You Can Learn

- Collective bargaining techniques
- Motivation-to-work theory
- Development of an idea that results in a business plan
- What is required to start a new firm

Faculty

The faculty of the Department of Management comprises individuals who have studied and pursued business careers throughout the world. Well over a dozen specializations within the field of business administration are taught, researched, and shared with the business community by these professors. Case studies, experiential exercises, computer simulations, laboratory research, business community projects, guest speakers, and seminar discussions are just a few of the ways in which instructors provide the students with a "real-world" exposure to business. The combination of faculty expertise, teaching skills, research activities, and business experiences assures the student of receiving the best possible management education.

Career Opportunities

What You Can Earn

- Human Resource Manager, \$89,743 (in our region)
- Human Resources Assistant, \$36,157 (in our region)
- Branch Manager Assistant, \$42,019 (in our region)

Source: HR Reported data from salary.com as of December 2012

Marketing and Logistics

About the Department

Andreas Stratemeyer, Department Chair
Peters Business Building, Room 388
559.278.7830
FAX: 559.278.8577
<https://craig.fresnostate.edu/mktg/>

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, as well as a Bachelor of Arts in Fashion Merchandising. 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 Fashion Merchandising. Please below for further information.

The Mission: "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 Vision: Creating challenging and enjoyable teaching and learning experiences and offering specialized cutting edge marketing options.

The Motto: Connecting the Learning Process and Experience to the Community

Faculty

The Department of Marketing and Logistics is composed of individuals who have studied and pursued business careers and teaching extensively throughout the world. Case studies, experiential exercises, business and community service projects, guest speakers, seminar discussions, and internships are just a few of the ways in which instructors provide students with practical applications in business. The combination of faculty expertise, teaching skills, research activities, and applied experience assures the student of receiving a quality education in marketing.

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.

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.

Fashion Merchandising

Fashion Merchandising Degree. 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.

Interesting Classes You Might Take

- Consumer Behavior
- Sports Marketing
- Principles of Logistics and Supply Chain Strategies
- Global Logistics and Supply Chain Strategies
- Entrepreneurial Marketing
- Export and Global Marketing
- E-Marketing Technologies and Social Media
- Strategic Planning in Marketing

What You Can 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.
- How firms utilize collaborative distribution intermediaries to gain a competitive advantage in local and global markets through integration of logistics and SCM.
- The management of the physical flow of products and information throughout the entire supply chain.
- How to build a marketing plan for the person or firm interested in the development of a new product or service.
- The Policies and practices of firms engaged in international world trade.
- The Development and application of marketing strategies in sports and sports-related industries.
- The use of the internet as a source of marketing information and as a marketing tool.

Career Opportunities

"I hear I forget, I see and I remember, I do and I understand." . . . Confucius 450 B.C.

"We don't receive wisdom: we must discover it for ourselves after a journey that no one can take us or spare us" . . . Marcel Proust

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.

What You Can Earn

Marketing Manager, \$115,172 (our region)

Public Relations Specialist I, \$58,341(our region)

Purchasing Agent, \$65,342 (our region)

Source: HR reported data from salary.com as of February 2023

College of Arts and Humanities

About the College

Honora Chapman, Dean
Peters Business Bldg. 334
2380 E. Keats MS/MB99
Fresno CA 93740-8024
Phone: 559.278.3056
cah.fresnostate.edu/

The College of Arts and Humanities provides a diverse student population with the communication skills, humanistic values and cultural awareness that form the foundation of scholarship. The college offers intellectual and artistic programs that engage students and faculty and the community in collaboration, dialog and discovery. These programs help preserve, illuminate and nourish the arts and humanities for the campus and for the wider community. The study of the arts and humanities provides a foundation in vision, depth, and discernment for all areas of knowledge. From the "Know thyself" of philosophy to the "Get it right" of journalism, the arts and humanities illuminate everything from self to society.

Art, music, dance, creative writing, and theatre offer opportunities to participate in and absorb the full range of creative and interpretive experience. English and communication, letters and language, sum up the best that has been thought and said. Languages and linguistics do all of that and more. Besides providing culture, in the Germanic sense of the term, knowledge of modern languages offers insights into whole new worlds of people. Linguistics offers the same opportunity through the English language, but from the opposite end of the telescope.

Journalism is best equipped to report on, comment on, and analyze the wisdom and folly of today. Philosophy deals with the wisdom of the ages - a heavy phrase for a discipline that teaches us how remarkable and timelessly "modern" the human mind has always been, from apple to Apple.

Given the broad spectrum of human concerns in the arts and humanities, it should come as no surprise that the classical studies and the humanities interdisciplinary minors are also housed in the college.

Honors Program

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.

Advising

The Arts and Humanities Advising Center is located in Speech Arts, Room 156. Arts and Humanities students are encouraged to have advising sessions to assist in evaluations and graduation requirements.

Arts and Humanities Interdisciplinary Degrees and Programs

- Humanities Interdisciplinary Minor
- Liberal Arts Degree Completion Program, B.A. (Continuing & Global Education)

Armenian Studies

About the Program

Barlow Der Mugrdchian, Berberian Coordinator
Peters Business Building, Room 384
559.278.2669
cah.fresnostate.edu/armenianstudies

The Armenian Studies Program offers courses on Armenian history, Armenian language and literature, art and architecture, culture, 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 Republic of Armenia, 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 Armenian Series. Seventeen books have been published in the Series.

Pete P. Peters Endowment. In 1998, Mr. Pete Peters, a long-time supporter of Armenian Studies, established a substantial endowment to benefit Fresno State students. Proceeds from the endowment are 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 student scholarships.

The Bertha and John Garabedian Charitable Foundation has generously supported the Armenian Studies Program by providing student scholarships and providing general support of the Program.

The Gladys Z. Ashjian Endowment supports special programs in the Armenian Studies Program.

The Anne Elizabeth Elbrecht Endowment supports special programs in the Armenian Studies Program.

The Florence Elaine Hamparson Endowment supports special programs in the Armenian Studies Program.

The Helen Zevart Peterson Endowment provides support for musical programs and speakers in the Armenian Studies Program

The Ralph Shabazian Endowment provides supports special programs in the Armenian Studies Program

The Eveleyn Sahroian Tregoning Endowment supports special programs in the Armenian Studies Program.

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 Mugerdechian 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 George & Shenora (Kirishian) Adishian Endowed Scholarship; Armenian Professional Society of San Francisco Scholarship; the AGBU Greater Fresno Chapter Scholarship; the Jeff & Jason Ahronian Scholarship; the G. Franklin Antoyan Armenian Scholarship; the Ayvazian Family Foundation in memory of Elizabeth Ayvazian; the Nercees and Ruth Azadian Memorial Scholarship; the Valerie J. Badvelian Armenian Scholarship; the Krikor & Mary Bedoian Armenian Scholarship; the Clara Bousian Bedrosian Armenian Scholarship; the Dr. Vartan and Sossie Djabrayan Scholarship in memory of Sossie's beloved parents, Nazareth and Nvere Ohannessian; the Bertha and John Garabedian Charitable Foundation Scholarship Fund; the Donald Garabedian Armenian Scholarship; Ronald J. Garabedian II Armenian Legacy Scholarship; the Peter Mourad Hagopian Memorial Scholarship; the John & Vars Ralph & Marian, Richard & Vartiter, Vernon & Carol Hovannisian Memorial Scholarship; the 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 Elizabeth Koojoolian Memorial Scholarship; the Yervant, Rose, and Hovannes Levonian Educational Grant; the Isabel Lion Memorial Scholarship; the James & Connie Melikian Armenian Scholarship; the John and Lucille Melkonian Scholarship; the Franklin Der and Elsie Ohanesian Memorial Scholarship; the John Ohanian Memorial Scholarship; the Charles K. and Pansy Pategian Zlokovich Scholarship; the Simon and Haiganoosh Peterson Family Memorial Endowed Scholarship Fund; the Robert V. Saroyan Family Scholarship; the Walter Sepetjian Memorial Scholarship; the Ralph Shabazian Endowed Scholarship; the Genevieve Tatoian Scholarship; and the James L. Melikian and L.A. Brothers Scholarship. The Warren and Lesa Paboojian Foundation "student editor award" is given annually to the editor of Hye Sharzhoom.

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.

Thanks to the support of the Kashian Family Foundation, qualified students may study for one academic semester, with all expenses paid, at the American University of Armenia.

Faculty

- Barlow Der Mgrdechian,
- Berberian Coordinator, Armenian Studies Program,
- Director, Center for Armenian Studies
- Sergio La Porta, Haig and Isabel Berberian Endowed Chair in Armenian Studies
- Hagop Ohanessian

Additional Staff

- Henry S. Khanzadian Visiting Professor in Armenian Studies

Art, Design, and Art History

About the Department

Martin Valencia, Department Chair
Conley Art Building, Room 105
559.278.2516
cah.fresnostate.edu/artanddesign

The Department of Art, Design, and Art History 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.

Art Animation and Intermedia allows students to explore fine art concepts through the use of various technological tools and mediums. Courses are offered in digital Imaging, 3D digital modeling, Video, 2D and 3D Animation. Combined with a strong foundation of art and art history, the program provides a thorough and broad investigation of critical art issues in a socio-economic, historical, art historical context. Students engage with high-end technological processes and learn skills critical to developing a career in either industry or art.

Art History is designed to provide students with the communication skills, research techniques, and methods of critical inquiry that have become a vital part of contemporary life. Course offerings cover a wide range of topics in world art, encouraging students to become responsible citizens through an understanding of the aesthetic, cultural and ethical choices inherent in human development. Students successfully completing the B.A. in Art History are eligible to compete for admission to M.A. and Ph.D. programs and for entry-level positions in the art world and related fields.

Graphic Design provides a Bachelor's of Fine Arts degrees that offers students a professionally-oriented degree program containing three areas of emphasis: graphic design, illustration, and interactive multimedia design. Within these areas, students will explore various design and art theories, applications and technology that are part of becoming a graphic designer, illustrator and/or interactive designer.

Integrated Design allows students many unique opportunities in the field of design, helping them acquire skills in specific advanced technologies crucial to the design industry. The program prepares students for diverse design jobs in the industry right after graduation and also prepares students to go into a graduate M.A. or M.F.A. program.

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.)

Interesting Classes You Might Take

- 2-D Computer Art & Animation
- 3D Digital Art - Animation
- Beginning 3D Digital Art - Modeling
- Building Systems, Construction Documents & Codes
- Computer Art
- Design Studio
- Design Graphics
- Design History, Theory & Criticism
- Design Materials & Specifications
- Digital Illustration
- Digital Video Art
- Graphic Concept Development
- Lighting Design
- Motion Graphics
- Professional Practices
- Packaging Design

What You Can Learn

- Integrating color and composition and its impact of design communication
- Principles and procedures of organizing and executing design projects
- Green design, aging, illness, and wellness
- Theories and applications of graphic design
- Advanced concepts and techniques in graphic design, illustration and interactive multimedia
- To become a professional designer in the field

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.

Faculty

The faculty of the department offer diverse, skilled, and professional approaches to art and design education. The methods of teaching reflect distinctive yet complementary ways and means of introducing their disciplines while guiding students through the program with a sense of dedication and commitment to the education of artists, designers, and scholars.

Career Opportunities

What You Can Earn

- Graphic Design Specialist, \$49,215 (in our region)
- Technical Illustrator, \$53,122 (in our region)
- Painter/Illustrator, \$39,064 (in our region)
- Web Designer, \$64,353 (in our region)

Source: salary.com as of December 2012

Art History Opportunities

Museum and Gallery Curator, Administrator, Professional Tour Guide, Art Conservator, Art Consultant, Art Development Worker, Art Law Enforcement Officer, Art and Estate Appraiser, Auction Worker, Artist Manager, Exhibit Installation Contractor, Exhibition Manager, Art Events

Planner and Organizer, Heritage Preservation Officer, Heritage Site Guide, Cultural Resources Manager, Media Executive, Designer, Researcher, College Professor, Educator, Writer, Journalist, Archivist

Communication

About the Department

Dawn K. Lewis, Ph.D., Interim Department Chair
Speech Arts Building, Room 15
559.278. 8517
FAX: 559.278.4113
cah.fresnostate.edu/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 the communication discipline, as well as its major theoretical frameworks and research methodologies. The major and minor emphasize how this theoretical knowledge is applied in specific contexts ranging from personal relationships to professional organizations to public advocacy. 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 Communication Club, 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 majors personalized advising through a dedicated undergraduate coordinator. 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.

The communication program presents a balance of humanistic and scientific instruction including communication skills people need to function effectively in teaching, business, law, the communication professions, public service, politics and management. Students have an opportunity to explore the full range of human communication.

Interesting Classes You Might Take

- The Dark Side of Close Relationships
- Communication of Science and Technology
- Organizations, Society, and Culture
- Leadership in Groups and Organizations
- Environmental Communication
- Rhetoric of Terrorism
- Critical Communication Pedagogy
- Freedom of Expression
- Rhetoric and Game Studies
- Performance for Social Change

What You Can Learn

- Various theories of interpersonal communication
- The role of culture, race, gender, and other aspects of identity in human communication
- Communication and problem solving in group settings and organizational settings
- The use of persuasion as a social tool for advocacy, resolving controversy, and shaping opinions from the perspectives of both the persuader and the persuaded
- The nature of communication and its relationship to learning and instruction

Career Opportunities

Recognizing that some careers require extensive knowledge about specific communication practices (in occupations ranging from politics and law to human resources and public relations), while virtually every field demands competence in oral and written communication skills, the Department's undergraduate program offers degree and certificate options tailored to our students'.

What You Can Earn

- Marketing Communication Specialist, \$70,334 (in our region)
- Employee Communication Manager, \$106,157 (in our region)
- Internal Corporate Communication Coordinator, Internal/External Communication Representative (entry-level), \$55,982 (in our region)
- Speech Writer, \$135,450 (in our region)

Source: HR Reported data on salary.com as of February 2021

English

About the Department

Melanie Hernandez, Department Chair
Peters Business Building, Room 382
559.278.2553
FAX: 559.278.7143
cah.fresnostate.edu/english/

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.

Faculty

The English Department consists of 26 full-time faculty whose teaching fields cover every area of literary studies and the humanities, including film and folklore. Most of the faculty have published books, textbooks, and articles in their disciplines, five have received outstanding teaching awards at the university, and one has received an outstanding teaching award for the entire CSU system. In addition, the faculty includes a number of lecturers, part-time instructors and teaching assistants, and the department operates an English writing lab staffed by tutors trained to work with students on an individual basis.

Linguistics

About the Department

Sean Fulop, Department Chair
Peters Business Building, Room 383
559.278.2441
cah.fresnostate.edu/linguistics/

Linguistics is the study of the human capacity for language. Language is the defining characteristic of the human species; without language, there would be no civilization, no culture, no scientific or technological development, none of the achievements and capabilities distinctive to the human species. Therefore, the study of the nature of language is fundamental to the understanding of what it means to be human.

Students and faculty in linguistics investigate the nature of human language, its structure, diversity, universality, acquisition by children and adults, historical change, and its use in society. They study how language is processed in the human mind/brain, and how it relates to other human cognitive faculties. And they study and develop applications of linguistics to teaching, technology, and many other fields.

Degrees and Programs

Our degrees and programs develop intellectual skills that are essential to professional careers or advanced degrees and can be applied directly to various professional fields. An undergraduate or advanced degree in linguistics can prepare you for a career in a variety of different fields, including but not limited to: teaching, publishing, national security, international affairs, policy, forensics, medicine and technology. Our programs 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.

- The B.A. Option in General Linguistics provides a broad background in the scientific study of language, including but not limited to phonetics, phonology, morphology, syntax, semantics, language acquisition, sociolinguistics, and related areas.
- The B.A. Option in TESL provides professional training and preparation in theories and methods for teaching second/foreign languages and is especially compatible with degrees in education and liberal studies.
- The B.A. Option in Interdisciplinary Language Studies is for those students interested in combining the study of a particular language or languages with the core areas of linguistics.
- 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.
- The B.S. Degree in Cognitive Science is an interdisciplinary program that combines aspects of Computer Science, Psychology, Linguistics, and Philosophy.
- The M.A. degree in Linguistics is designed to increase the student's knowledge and understanding of linguistics and its applications. The M.A. degree has two options, one in General Linguistics and one in TESOL / SLAT. The general linguistics program is designed to train students who expect to do further graduate work, to teach linguistics at the college level, or to do linguistic field work on less-studied languages. The option in TESOL / SLAT prepares students for further graduate work in applied linguistics and serves those who wish to teach English to speakers of other languages at any educational level, either abroad or in this country. The TESOL / SLAT option specifically meets the needs of English language teachers in this region.
- Minors in Chinese, Hmong, and Japanese are also available for students with plans to pursue careers in various areas, such as education, health care, international affairs, marketing, economics, national security, art and literature, etc., where a knowledge of language and culture would be useful.
- The Undergraduate Certificate of Special Study in Teaching English as a Second Language is intended for local and international Bachelors students who wish to specialize in English as a Second Language methods.
- The Graduate Certificate in TESL is designed to train students in the theory and practice of TESL, with application to a wide variety of teaching circumstances.

Interesting Classes You Might Take

- General Linguistics (LING 100)
- Japanese Language and Culture (LING 120)
- Practical English Grammar for Language Teachers (LING 146)
- Syntax (LING 143)
- Phonology (LING 142)
- Phonetics (LING 139)
- Historical Linguistics (LING 145)
- History of English (LING 138, GE Integration IC)
- Psycholinguistics (LING 153)
- Language Acquisition (LING 165)
- Arabic 1A-B (GE Breadth C2)
- Chinese 1A-B (GE Breadth C2)
- Hmong 1A-B (GE Breadth C2)
- Japanese 1A-B (GE Breadth C2)
- Persian 1A-B (GE Breadth C2)

What You Can Learn

- Linguistic analysis methodology: phonology, morphology, syntax, and semantics

Facilities

The Department of Linguistics has a computer lab for computer-assisted language learning (CALL) and for language study. The Department also has a sound booth for phonetic analysis. The Linguistics Department provides practical classroom teaching experience for qualified ESL students through internship programs at area schools and through employment with the American English Institute.

Career Opportunities

A B.A. in Linguistics can prepare students for a career in many areas, including: translation and interpreting; publishing; editing and grammar checking; lexicography (dictionary development); indigenous language documentation and preservation. When combined with computer science in the Computational Linguistics option, careers in technology, artificial intelligence, and software development become possibilities. In law or criminology, Linguistics graduates have a special understanding of legal issues involving language or the use of language evidence in litigation (forensic linguistics). In health care, students with a linguistics degree can take advanced training and pursue careers in speech pathology and related areas. Many corporations recruit linguistics majors into development and marketing positions.

Many of our B.A. students want to pursue careers in education. There are several ways to do this. Students interested in teaching grades 7-12 can enroll in the English Department Credential Program with a linguistics emphasis. Students can double major in linguistics and liberal studies, or minor in linguistics with a liberal studies major to lead to a Multiple Subject Credential for K-6 instruction. Students who pursue a major in linguistics by itself may enter the Multiple Subject Credential Program with satisfactory completion of the CSET Exam. Many linguistics graduates in the TESOL/SLAT option find jobs teaching English overseas.

Media, Communications, and Journalism

About the Department

Faith Sidlow, Department Chair
McKee Fisk Building, Room 236
559.278.2087
FAX: 559.278.4995
cah.fresnostate.edu/mcj/

Contemplating a vibrant career in media, communications or journalism? Check out the MCJ Department. An exciting array of options awaits students, including advertising, broadcast journalism, film and media arts, digital journalism and public relations.

Advertising/Public Relations. Ready to grab the attention of your audience? Want to use strategic communication to help an organization succeed? The department's advertising and public relations students work for such agencies as J. Walter Thompson, Chiat/Day, Publicis and Hal Riney, American Airlines, Google, Facebook, Twitter, FleishmanHillard, Salvation Army, Valley Children's Hospital, Coca Cola, and Orbitz.

Broadcast Journalism. Broadcast journalism students learn the importance of producing responsible news coverage while maintaining strong ethical standards. Our program's core focuses on teaching the principles of storytelling through video, audio, and powerful writing. Our students learn through their experiences, which include producing content for television, radio, and digital platforms in English and Spanish. Broadcast journalism graduates are now reporters, producers, and anchors at local and national radio and television stations. Other alumni have embarked on careers at technology and social media companies including Google, Amazon, Facebook, and Banjo.

Digital Journalism. The written word remains one of the most powerful forms of human communication, both in physical publications and on the web. Digital journalism graduates are working for leading news outlets, including The New York Times, USA Today, The Los Angeles Times, The San Francisco Chronicle and The Fresno Bee, along with TV stations running their online operations. Alumni have also embarked on literary careers and include award-winning non-fiction authors. The Collegian, Fresno State's award-winning student-run news organization, serves as a key laboratory classroom and allows students to get hands-on experience covering local news.

Film and Media Arts. Have a story to tell? Film and media arts students are creative storytellers who communicate through writing, photography, video, audio, and the web. Graduates are on all the staffs at local television stations and multiple production companies. Some are working on network television shows such as Survivor.

Affiliations

The MCJ department is a member of the Broadcast Education Association and the California News Publishers Association. Student organizations include chapters of the American Advertising Federation, the Radio and Television Digital News Association, The California College Media Association, Kappa Tau Alpha (a national journalism scholarship society), and the Public Relations Student Society of America.

Facilities

- Students in the MCJ department get hands-on experience in a professional television studio with high definition multi-cam capabilities. Other laboratory experiences include digital research and writing; field video production; still photography; photo, video, and audio editing; and publication design with the Adobe Creative Suite.
- The campus student-run news organization, The Collegian, serves as a laboratory classroom, as does the department's television program, Fresno State Focus. Students also collaborate with the campus public radio station 90.7 KFSR.

- The department's Multimedia Production Service produces video and photography projects for numerous clients and provides students practical experience in media production.

Career Opportunities

Graduates of the MCJ Department work for many of America's leading print and digital news outlets, radio and television stations, broadcast and film production companies, advertising agencies, public relations firms, corporations, government agencies, and community-based organizations.

Modern and Classical Languages and Literatures

About the Department

Natalie Muñoz, Department Chair
Peters Building, Room 393
559.278.5707
FAX: 559.278.7878
cah.fresnostate.edu/mcjl/

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.

Interesting Classes You Might Take

- Topics in Foreign Language
- French for Communication
- German Literature to 1750
- The Rise of Rationalism: 5th Century Athens

What You Can Learn

- Conversational and written Portuguese
- Increased reading and writing skills in preparation for upper-division coursework in Spanish
- Interdisciplinary approach to Mexican culture
- Classical and New Testament Greek

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 SPAN 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, SPAN 125, SPAN 129 and courses taught in English: FREN 109, FREN 124, FREN 125, FREN 149, GERM 103T, GERM 160T, ITAL 100, ITAL 110, ITAL 130, ITAL 160T, LATIN 132, PORT 101, PORT 102, PORT 103.

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, HUM 11, HUM 15, HUM 20, FREN 1B, FREN 2A, FREN 2B, FREN 109, FREN 149, GERM 1B, GERM 2A, GERM 2B, GRK 1A, GRK 1B, ITAL 1A, ITAL 1B, ITAL 2A, ITAL 2B, LATIN 1A, LATIN 1B, PORT 1A, PORT 1B, SPAN 1B, SPAN 2A, SPAN 2B, SPAN 3, SPAN 4A, SPAN 4B, SPAN 125, SPAN 129. See also Department of Linguistics .

Career Opportunities

Study Another Language, See a New World

Learning another language changes your life. It gives you an international and global perspective on social, cultural and political issues. It gives you an opportunity to travel to another country and study art, music, and history. You become bilingual and bicultural. You get "hands-on" experiences with cross-cultural communication. You learn to appreciate your knowledge of English even more than you do now.

You can learn to speak, read and write one of several important modern languages spoken in the United States and the world: Spanish, Portuguese, Italian, French, or German. For German, French and Spanish, you can also study the important literary works written in those languages. In addition, you can use your knowledge of languages and cultures to study abroad in a number of programs in Europe, Mexico, and Central and South America.

Music

Philosophy

About the Department

Veena R. Howard, Department Chair
Music Building, Room 102
559.278.2621
FAX: 559.278.6484
cah.fresnostate.edu/philosophy/

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 pre-law 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 Pre-Law 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.

Interesting Classes You Might Take

- Self, Religion and Society
- Ethics in Criminal Justice
- Twentieth Century Philosophy
- Contemporary Conflicts of Morals

What You Can Learn

- Major religions of the world, their traditions, teachings, influential texts, methodological and comparative approaches
- Prominent political philosophies and contemporary issues of politics and public policy
- The fundamental concepts and problems of moral theory
- Feminist approaches to philosophy and to specifically philosophical approaches to gender

Careers Opportunities

What You Can Do

- Continue education with a goal of achieving a degree in law
- Pursue advanced degree in religion or a religious vocation
- Pursue careers in government or business

Theatre and Dance

About the Department

J. Daniel Herring, Department Chair
Speech Arts Building, Room 33
559.278.3987
cah.fresnostate.edu/theatrearts/

The theatre arts major and dance major offer you the opportunity to develop your skills in acting, directing, dance training, research and performance, choreography, playwriting, children's theatre, technical production, scene design, costume design, sound design, stage management, lighting design, history, literature, and teaching. After completing our program, you will have the background that will enhance your ability to pursue either a teaching credential, advanced degree, or a professional career.

Our professionally trained instructors will guide you through a program that 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 or dance is what you want, then the Fresno State Department of Theatre and Dance is ready to serve you. The Theatre Arts faculty includes performers, designers, and directors with top academic credentials as well as professional experience. The department is an accredited institutional member of the National Association of Schools of Theatre. Organizations such as the Kennedy Center/American College Theater Festival and the American College Dance Association have honored numerous Fresno State Students.

The Department of Theatre and Dance 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 Association (ACDA). Our students, faculty, and productions have been awarded many regional and national honors from both ACTF and ACDA.

Our national award-winning Department offers you educational preparation in all aspects of theatre and dance. Besides having the opportunity of being guided by an extensive curriculum and production schedule of more than 9 plays and numerous dance concerts, you will have the opportunity to study with guest professionals who participate in our program on a regular basis.

At Fresno State there are a variety of production organizations, each providing a different kind of experience. University Theatre produces six major theatre and dance productions a year, cast and crewed by students. The Experimental Theatre Company (ETC) is a student organization and University Dance Theatre (UDT) is a student centered dance course, they produce their own plays and dance concerts. The Black Theatre Contingent (BTC) focuses on drama of the African-American experience. Playwrights Theatre is dedicated to the exploration of dramatic literature. 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 Contemporary Dance Ensemble. As you can see, we offer a variety of opportunities for you to develop and practice your art.

Career Opportunities

Dance. Successful completion of the BA Dance degree will allow the student to apply for positions in performing arts companies, colleges and professional schools as dancers, instructors, choreographers and dance technicians. It will provide a seamless transition to graduate programs in dance performance and education as well as K-12 credential programs. Other professional uses include being an independent artist in dance or related disciplines, producing dance events and promoting the performing arts or similar events. The curriculum is designed to provide students with a strong skills set, a knowledge base for critical thinking and a set of ethical values appropriate to enter a professional setting. Moreover, graduates of this program will also be competitive in associated fields such as Community Dance Workers, Dance Therapist and Arts Management.

What You Can Do

- Educational institutes such as Universities
- Community Colleges and K-12 systems
- Private dance schools
- Advertising agencies
- Theaters
- TV/Film studios
- Magazines
- Amusement and theme parks
- Arts councils
- Industrial shows
- Performing arts centers
- Cruise lines

Theatre Arts. The most important element in the Department's success is the students. Our undergraduates enjoy unusual opportunities to play leading roles, to direct, and to design for lab and mainstage productions. Organizations such as the Kennedy Center/American College Theatre Festival and the Festival (<http://www.acdfa.org/>) have honored numerous Fresno State Students. Working together, students and faculty have created many shows that have won regional, national, and international honors.

What You Can Do

- Acting
- Dancing
- Designing
- Directing
- Event Planning
- Voiceovers
- Choreography
- Stage Management
- Radio and television
- Journalism
- Public Relations and Marketing
- Rock performances
- Touring productions

- Teaching

College of Health and Human Services

About the College

Denise Seabert, Dean
 McLane Hall, Room 178
 2345 E. San Ramon, MS MH26
 Fresno CA 93740-8031
 Phone: (559) 278-4004
 FAX: (559) 278-4437
chhs.fresnostate.edu

The College of Health and Human Services offers a broad range of fully accredited post-secondary and graduate educational programs to more than 4,000 students each year. The College includes the Departments of Communicative Disorders and Deaf Studies, Gerontology, Kinesiology, Nursing, Physical Therapy, Public Health, Recreation Administration, and Social Work Education.

Residents and communities in the Central California region continue to face serious issues within the health and human service environment that will require continuing generations of well-prepared health and human service professionals. As a major academic unit in a comprehensive regional university, the college is unique and important in educating health and human services professionals of the San Joaquin Valley. The college co-operated with other units of the university to provide a comprehensive curriculum required to effectively prepare qualified professionals.

The college provides an especially important leadership role in community services through participation of its faculty in organizations, boards, and a variety of agencies and by conducting workshops, symposia, in-service education, and applied research. The college is also committed to the continuing education and the professional development of health and human services providers.

Mission

To provide professionally oriented education at the baccalaureate level and to provide graduate programs in specialized disciplines related to health and human services.

Advising

The Health and Human Services Advising and Career Development Center is located in McLane Hall, Room 276 and supports the academic goals from freshmen year to graduation. The academic disciplines of communicative disorders and deaf studies, gerontology, kinesiology, nursing, physical therapy, public health, recreation administration, and social work education seek to foster interdisciplinary-holistic education for future health and human services providers.

Health and Human Services Interdisciplinary Degrees and Programs

- Pre-Health, B.S.

Aerospace Studies

About the Program

Lt Col Rory Klepper, Program Chair
 North Gym, Room 148
 559.278.6201
 FAX: 559.278.5245
chhs.fresnostate.edu/air-force/

The Air Force Reserve Officer Training Corps (AFROTC) was established with passage of the National Defense Act of 1916. Among the first AFROTC units established between 1920 and 1923 were the University of California at Berkeley, Georgia Institute of Technology, and the Massachusetts Institute of Technology.

The mission of AFROTC is to develop leaders of character for tomorrow's Air Force. The curriculum taught in AFROTC at California State University, Fresno is the exact same curriculum that is taught to the cadets at the USAF Academy in Colorado Springs. More importantly, this program is available to all students at CSUF with or without a desire to seek a commission in the USAF after graduation through the Aerospace

Studies minor program. Regardless of the path a student takes after graduation, the skills they will learn while earning a minor in Aerospace studies will pay huge dividends for them by making them better leaders, decision makers, problem solvers, public speakers, team builders, writers and enhancing their physical, emotional, mental health and resiliency.

Students also have the opportunity (on a voluntary basis) to participate in our physical fitness program designed by the kinesiology department and put their leadership skills to the test at the weekly leadership laboratory class.

Several routes for an Air Force commission are available to college students in Air Force ROTC if they desire to serve on active duty as an officer after they graduate. 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. 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 per semester allowance for curriculum-required textbooks. In addition, scholarship cadets receive a nontaxable \$300-\$500 subsistence payment 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 Recruiting Officer for the latest information.

Communicative Sciences and Deaf Studies

About the Department

Steven L. Skelton, Ph.D., Department Chair
5310 N. Campus Drive M/S PH 80
559-278-2423 (V)
559-278-5187 (Fax)
chhs.fresnostate.edu/csds/

The Field of Communicative Sciences and Deaf Studies Audiologists, speech-language pathologists, deaf education and interpreting are concerned with many issues related to speech, hearing, and language. Professionals in audiology and speech-language pathology fields are devoted to providing diagnostic, rehabilitative, and educational services to children and adults with communicative challenges. Professionals in deaf education and interpreting fields are devoted to providing educational services and community-related services to children and adults who communicate in American Sign Language and/or other communication modalities.

Bachelor of Arts. Communicative Sciences 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 three options: deaf education, deaf studies, and sign language interpretation.

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 and credential requirements leading to professional employment.

Deaf Education Option 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 Option provides you with a broad professional background in normal speech and language development, 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 the master's degree prepares you for one or more of the following: provisional certification in deaf education by the Council on Education of the Deaf; and Preliminary and Clear. Education Specialist Credential: and Deaf and Hard of Hearing.

Communicative Disorders Minor. 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

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 educational production materials such as films, video, clinical equipment, and professional journals. The department operates the University Speech and Hearing Clinic; an ongoing clinic that provides diagnostic, therapeutic, and counseling services to clients of all ages with a variety of different communication problems or disorders.

Gerontology

About the Program

Helen Miltiades, Program Director
Professional and Human Services, Room 107A
559.278.7253
chhs.fresnostate.edu/social-work/degrees-programs/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 policies 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.

Military Science

About the Program

Lt. Col. Joshua Lunsford, Program Chair
North Gym, Room 145
559.278.2887
<https://chhs.fresnostate.edu/military-science/>

The Army Military Science Program, also known as Reserve Officer Training Corps (ROTC), is a college based program that produces officers and commissions qualified students into the United States Army. Our program is founded in both theoretical instruction and practical application of leadership. Students learn a wide 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 want to explore a military career 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.

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).

Enrollment Requirements

Those students who are simply interested in finding out about our program or developing leadership skills should enroll in one of our introductory courses (see course listings). 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, 559.278.2887, or at North Gym 145 on the Fresno State Campus.

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.

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 of \$420 (tax free) each month depending on their academic status. The Army also has made available two-, three-, and four-year scholarships -- on a competitive basis -- which pay all tuition, book, and fees, or \$10,000 room and board per year, in addition to a tax-free stipend each month.

Kinesiology

About the Department

Dr. Jenelle Gilbert, Department Chair

Email: jgilbert@csufresno.edu

South Gym, Room 112

559.278.2016

chhs.fresnostate.edu/kinesiology/

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 provide students with the insight, education, and practical experience in exercise, sport, and physical activity for employment in the kinesiology field. 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 Exercise Science Option provides a foundation in the movement sciences which fully prepares students for graduate study and professional careers in fitness, wellness, health promotion, human performance, and preventive and rehabilitative sciences. The exercise science option also prepares students for professional certifications from internationally recognized health/fitness organizations. Flexible and personalized educational and career development strategies are hallmarks of this program. Exercise science faculty provide instruction and advising that is based upon theories and principles as well as practical and professional experience. Many students in the option are seeking admission to clinical programs, such as Athletic training, Physical therapy, Occupational therapy, Physician Assistant, Nursing, Chiropractic, and Medicine.

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 allows teacher candidates to complete specified unit requirements in the Physical Education Teacher Education Option. Upon completion of the PETE program students will need to complete an accredited credential program as well. The PETE program is an accredited 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, Sport Administration, and Sport Psychology, and curricular emphases in physical education. There are 13 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; and a swimming complex. Modern, well-equipped instructional and research labs in exercise physiology, biomechanics, sports and exercise psychology, and athletic training are central components of the department.

Career Opportunities

What You Can Do When Get a Degree in Exercise Science

Exercise Science prepares students for professional careers in fitness and wellness, for example:

- Personal and group fitness training,
- Worksite health and wellness promotion,
- Strength and conditioning,
- Clinical exercise physiologist, and
- Fitness equipment and medical equipment sales.

Exercise Science will also prepare students for graduate study in areas, such as:

- Exercise physiology,
- Biomechanics,
- Health promotion and wellness,
- Fitness and conditioning

Marketability and advancement within the various professions can be enhanced by additional professional certifications. Completion of the Bachelor's degree in the Exercise Science Option is designed to prepare students to successfully complete professional certifications through such organizations as:

- American College of Sports Medicine (ACSM)
- National Strength and Conditioning Association (NSCA)
- National Academy of Sports Medicine (NASM)
- American Council on Exercise (ACE)
- Exercise Is Medicine (EIM)

What You Can Do When Get a Degree in Physical Education

Information coming soon

What You Can Do When Get a Degree in Kinesiology - Sports Administration Option

Information coming soon

Physical Therapy

About the Department

Jenna Sawdon-Bea, Department Chair
Physical Therapy and Intercollegiate Athletics Building, Room 122
559.278.2625 department
559.278.6376 direct
chhs.fresnostate.edu/physical-therapy/

The Department of Physical Therapy offers an entry-level postbaccalaureate Doctor of Physical Therapy which meets professional education requirements to become a licensed physical therapist in all 50 states.

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

Public Health

About the Department

Kara Zografos, Department Chair
McLane Hall, Room 184
559.278.4014
chhs.fresnostate.edu/public-health/

The Bachelor of Science in Health Science and the Master of Public Health (MPH) 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). A minor in Health Science is also offered by the department.

Pre-Health Major

The College of Health and Human Services Pre-Health Program provides support to students exploring careers in the health and human services professions with academic advising and career exploration. The Pre-Health Program allows students interested in: Communicative Sciences - Audiology and Speech-Language Pathology options, Health Science - Community Health, Kinesiology - Exercise Science, Nursing, and Social Work to explore these majors and career pathways. The Pre-Health Program is a three-semester program that will blend in all lower-division general education. Students in the Pre-Health Program will enroll in HHS 18: Career Pathways in Health and Human Services in their first semester and HHS 100T: Career Exploration in Health and Human Services in their second semester to help in the exploration process. During the second semester an academic counselor will work with students to identify a major appropriate to their career path and then in the beginning of their third semester they will apply to the major of their interest.

Bachelor of Science Degree

The Department offers curricula based on principles of public health practices leading to a Bachelor of Science degree in Health Science with options in:

1. **Community Health Option** is designed to prepare individuals to enter the workforce as competent health educators in the private and public arenas. Students in this option are encouraged to seek the Certified Health Education Specialist (CHES) certification upon graduation.
2. **Environmental/Occupational Health and Safety Option** is designed to prepare individuals as health professionals responsible for protecting the public's health from environmental hazards. 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, math, and physics) and includes core courses in Public Health, foundation courses in environmental and occupational health, and elective courses that allow for specialization, such as food protection, hazardous waste management, and water and wastewater.
3. **Health Administration Option** provides a broad-based program to prepare students for administrative positions within the health care system. The curriculum is designed with an emphasis on exposing students to the principles of health services administration and the application of these principles. Health administration students receive extensive exposure to health economics, finance, accounting, and management. The emphasis in these courses is to develop "hands-on" skills.

Master's Program

The mission of the Master of Public Health (MPH) program is to prepare public health professionals for leadership roles in the field of 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 the health needs of the ethnically and socioeconomically diverse populations living in the San Joaquin Valley and the southwest. Coursework for the (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.

Career Opportunities

Community Health. The community health curriculum requires courses in the basic sciences (Biology, Chemistry, and Anatomy/Physiology) as well as in: Statistics, Community Health, Epidemiology, Environmental Health, Health Administration, Health Behavior, Principles of Health Education, Human Disease, Health Education Methods, Emergency Preparedness, Global and Cultural Health, Drugs and Alcohol, Alternative and Complementary Medicine, and many other topics. Program planning, dissemination, implementing, and evaluating are emphasized throughout the curriculum.

What You Can Earn

- Health Educator, \$60,600 (in our region)

Source: US Bureau of Labor Statistics, 2021

Environmental/Occupational Health and Safety Option. Students are academically prepared to make significant contributions to society by anticipating, evaluating, and controlling environmental and occupational health hazards. Career opportunities exist in government agencies, private industry, consulting, and research organizations. The program also provides preparation for graduate studies and acceptance into professional schools, including medicine, dentistry, pharmacy, optometry, veterinary medicine, and law. The option is also approved as an Option V program by the California Department of Health Services. As a result, students are eligible for paid internships with federal agencies, such as the U.S. Public Health Service, national and state scholarships, and entrance to the Registered Environmental Health Specialist (REHS) exam immediately following graduation.

What You Can Earn

- Environmental Scientists and Specialists, \$76,530 (in our region)
- Occupational Health and Safety Specialists, \$106,340 (in our region)

Source: US Bureau of Labor Statistics, 2021

Health Administration. Health administration students receive extensive exposure to health economics, finance, accounting, and management

What You Can Earn

- Medical and Health Services Manager, \$101,340 (in our region; less than 5 years of experience in related occupation)
- Human Resources Manager, \$126,230 (in our region; more than 5 years of experience in related occupation)

Source: US Bureau of Labor Statistics, 2021

Recreation Administration

About the Department

Samuel Lankford, Department Chair
Professional and Human Services Building, Room 121
559.278.2838
FAX: 559.278.5267
chhs.fresnostate.edu/recreation/

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, entrepreneurship, 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.

Interesting Classes You Might Take

- Leadership in Recreation, Parks and Tourism
- Lifelong Learning in the Natural Environment
- Leisure and Human Behavior
- Challenge Course Facilitation
- Serving At-Risk Youth
- Special Event Planning
- Diversity and Inclusive Practices in Recreation
- Sports and Entertainment Facility Booking, Promotion, and Box Office Operations

What You Can Learn

- Fundamental skills and knowledge for traveling outdoors by map and compass, and by knowledge of natural features
- Leisure as related to the individual and society
- A knowledge of the conference, convention, and meeting industry, inclusive of the design, budgeting, and programming principles used within the industry
- The development of budgets and data analysis methods for park, recreation, and tourism agencies through the use of a variety of computer programs

Career Opportunities

Recreation Administration is the academic program for students who want to prepare for a career in the "Recreation and Leisure Industry." Overall, the Recreation Industry, including tourism, is a huge and diverse industry with over \$1 trillion of spending within the U.S. each year.

We manage facilities, programs, and services that help people have a higher quality of life through positive, enjoyable, and enriching recreation and leisure experiences. That's what recreation and leisure professionals do, and our curriculum helps students learn the necessary skills to facilitate such experiences.

What You Can Earn

- Campus Recreation Director, \$63,993 (in our region)*
- Recreation Coordinator, \$44,078 (Intramurals - in our region)*
- Golf/Country Club, \$73,900
- U.S. Gov. Military Recreation, \$69,800
- Resort/Resort Hotel, \$66,400
- School District Recreation Program, \$66,000
- City Parks & Recreation Department, \$63,300
- Private Recreation/Sports Center, \$60,000
- Community Recreation/Sports Center, \$58,200
- YMCA/YWCA/JCC, \$57,300
- College/University Recreation/Intramurals, \$57,200
- Sports/Health/Fitness Club, \$53,900
- Youth/Private Camp, \$53,000

- Campground/RV Park, \$52,200

Source: Based on a 2009 national survey of full-time professionals by Recreation Management Magazine; *salary.com as of December 2012

School of Nursing

About the Department

Sylvia Miller, Department Chair
McLane Hall, Room 190
559.278.2041
chhs.fresnostate.edu/nursing/

The mission of the School of Nursing is to offer quality nursing education to undergraduate and graduate nursing students. This education prepares nurses with clinical decision-making skills based on evidence-based practice (EBP). Additionally, the School seeks to establish an academic foundation for Advanced Practice Nursing and Doctoral preparation. As life-long learners, graduates are prepared to deliver holistic health care to diverse populations across health care settings. The Bachelor of Science degree in Nursing (BSN) requires a minimum of 120 semester units, and the nursing curriculum sequence covers five semesters. For more information, see the school's website.

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.

High school students preparing for a career in nursing should take biology, chemistry, and additional college preparatory courses required for CSU admission.

Interesting Classes You Might Take

- Nursing of the Childrearing Family
- Critical Care Assessment
- Concepts of Community Health Nursing
- Health Appraisal

What You Can Learn

- An understanding of the principles underlying the techniques, procedures, and activities required while caring for clients with common health conditions
- A knowledge of health assessment, communication skills, and noninvasive nursing procedures in the care of elderly patients in the health care setting
- The nurse's role as a teacher in the health care setting

Career Opportunities

Upon completion of the program, students are eligible for the National Council Licensure Examination for Registered Nurses (NCLEX-RN) and the California Public Health Nurse Certificate. The program is accredited by the California Board of Registered Nursing and the National League for Nursing Commission on Collegiate Nursing Education.

What You Can Earn

- Public School Teacher, \$52,085 (in our region)
- Nurse Practitioner, \$93,652 (in our region)
- Registered Nurse, \$68,040 (in our region)

Source: HR Reported data from salary.com as of December 2012

Social Work Education

About the Department

Irán Barrera, PhD., LCSW, Professor & Department Chair
Professional and Human Services 128

559.278.3992

FAX: 559.278.7191

chhs.fresnostate.edu/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 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.

Pre-Health

Pre-Social Work as a preparatory program for the Social Work program has been changed and is now part of the larger Pre-Health Program. The College of Health and Human Services Pre-Health Program provides support to students exploring careers in the health and human services professions with academic advising and career exploration. The Pre-Health Program allows students interested in: Nursing, Kinesiology-Exercise Science, Health Science-Community Health and Social Work to explore these majors and career pathways. The Pre-Health Program is a three semester program that will blend in all lower-division general education. Students in the Pre-Health Program will enroll in HHS 18A in their first semester and HHS 18B in their second semester to help in the exploration process. During the second semester an academic counselor will work with students' to identify a major appropriate to their career path and then in the beginning of their third semester they will apply to the major of their interest.

Interesting Classes You Might Take

- Child Welfare
- Treatment of Chemical Dependency
- Cross Cultural Human Services

What You Can Learn

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 educates beginning (B.A. in Social Work) and advanced practice (M.S.W) who can meet complex needs, perform a multiplicity of social work roles, promote institutional change, and enhance the problem solving capacities of individuals, families, groups, organizations, and communities.

Faculty

The faculty members of the department represent a wide spectrum of theoretical orientations and approaches to professional social work practice. All have substantive practice experience and many engage in active research programs and social policy interests. In addition to the on-campus facilities of the university, the department uses the San Joaquin Valley's unique urban-rural configuration of people, social-political institutions, and the accompanying host of social service needs as the setting for field internships.

Numerous public and private social service agencies in our region make their facilities and professional social work staff available for the internship requirements of the programs. Internship experiences are available in the schools, healthcare settings, behavioral health, probation, and social services departments in the counties of Fresno, Kings, Madera, Tulare, and San Luis Obispo. A representative sample of settings include Community Regional Medical Centers of Central California, Valley Children's Hospital, Fresno Unified School District, Focus Forward, and Kings County Human Services Agency.

Career Opportunities

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.

What You Can Earn

- Social Worker (MSW), \$57,406 (in our region)

- Social Worker (BSW), \$48,562 (in our region)

Source: HR Reported data from salary.com as of December 2012

What You Can Do

The undergraduate social work program prepares students to enter supervised professional social work practice and/or pursue admission to a range of graduate studies programs.

College of Science and Mathematics

About the College

Dr. Christopher R. Meyer, Dean
 Science II Building, Room 301
 2576 E. San Ramon, MS ST90
 Fresno, CA 93740
 Phone: (559) 278-3936
csm.fresnostate.edu/

The College of Science and Mathematics is dedicated to the holistic preparation of the next generation of scientists and mathematicians for vital and diverse careers in STEM using innovative High Impact Practices. The College provides professional training at the undergraduate and graduate levels to serve as a foundation for a career in science or mathematics, to provide preprofessional training in preparation for careers in medicine, dentistry, pharmacy, veterinary medicine, and other professions or for continued study at the graduate level.

The college offers a Bachelor of Arts in Natural Sciences which 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.

Advising

The Science and Mathematics Advising and Resources Center is located in the Science I Building, Room 136. The staff are here to assist students in the College of Science and Mathematics in achieving their goals, both academically and professionally and provide students with the following resources and services:

- Academic advising
- Pre-professional advising
- Research and internship advising
- Career exploration, resume assistance, and other career development services provided by the Career Development Center professionals
- Information on student organizations, clubs, and professional programs

College of Science and Mathematics Interdisciplinary Degrees and Programs

- 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.

Biology

About the Department

Dr. Karine Gousset, Interim Department Chair
 Science Building, Room 106
 559.278.2001
csm.fresnostate.edu/biology

...innovative and state of the art education and research in Ecology, Evolution, and Cellular and Molecular Biology

The Department of Biology offers diversified undergraduate and graduate programs that match the breadth and excitement of modern biology and prepare students for career opportunities that use biology as a foundation. Biology is the scientific study of life: its processes, complexity, and incredible diversity. The Department offers diversified undergraduate and graduate education that spans the breadth of modern Biology - from the inner workings of cells to the structure of whole ecosystems.

The undergraduate biology major we offer has three programmatic goals:

- To provide students with a solid foundation in all aspects of modern biology and the intellectual skills that will serve as the basis for a lifetime of future achievement.
- To provide students with specialized educational opportunities that will allow them to compete successfully for careers in the biological sciences or for advanced studies in doctoral programs.
- 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 clinical laboratory science, medicine, dentistry, pharmacy, veterinary medicine, optometry, doctoral programs, and many others. The department offers a Master of Science (M.S.) in biology and a professional science Master of Biotechnology for qualified students who wish to explore some part of biology in greater depth.

Facilities

The department is housed in a well-equipped science building. Among the specialized equipment and technologies available for students are Polymerase Chain Reaction (PCR) thermocyclers; apparatuses for conducting molecular and immunological analyses of nucleic acids and proteins; genetic recombination, including use of electroporation and gene guns; computational servers; cell and tissue culture facilities; fermenters and bioreactors; fluorescence and laser capture microdissection microscopes; ultracentrifugation; radioactive materials methodologies; and metabolic studies on all types of life forms. 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 an herbarium.

Faculty

The Department of Biology is a vibrant group of tenure-track faculty members; excellent teachers with active and externally funded research programs. Fresno State biologists are investigating the molecular mechanisms of cellular processes, the ecology of the Sierra Nevada forests and watersheds, and the evolution of life in the world's oceans. The Department offers a diverse graduate and undergraduate curriculum to prepare students for an array of career paths in the biological sciences. Motivated students have a wealth of independent research opportunities with Biology faculty.

Interesting Classes You Might Take

- Human Anatomy and Physiology
- General Ecology
- Evolution
- Plant Taxonomy

What You Can Learn

- The role of microorganisms in causing infectious disease
- Ecology, evolution, and diversity of the fish of the world
- Macroscopic and microscopic study of the structure and functional relationships of the human nervous system
- The role of evolution in environmental relationships

Career Opportunities

What You Can Do

- Prepare for Graduate Programs in Medicine
- Dentistry
- Pharmacy

- Veterinary Medicine
- Optometry
- Doctoral Programs

What You Can Earn

- High School Biology Teacher, \$56,101 (in our region)

Source: HR Data from Salary.com as of December 2012

Chemistry and Biochemistry

About the Department

Viswanathan Krishnan, Department Chair
 Science Building, Room 380
 559.278.2103
csm.fresnostate.edu/chemistry

The Chemistry and Biochemistry 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 programs in Chemistry/Biochemistry are 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.

Interesting Classes You Might Take

- Chemistry and Society
- Introductory Organic Chemistry
- Fundamentals of Biochemistry
- Chemistry in the Marketplace

What You Can Learn

- Structure and behavior of organic and biological compounds
- Basic treatment of gas laws, thermodynamics, kinetics, and spectroscopy
- Real-world experiences with forensic science through collaboration with local crime laboratories

Facilities

The graduate chemistry laboratories and support areas are housed in the science building. Students have access to a broad range of instrumentation, including two solution-state NMR spectrometers (300 MHz and 400 MHz), an EPR spectrometer, Jasco-1815 CD spectrometer, a TA instruments nano-DSC, a range of mass spectrometers (including ion trap, micro-TOF and MALDI-TOF-TOF), several HPLC systems. Fourier Transform Infrared spectrometers (transmission and multi-bounce ATR) a range of gas chromatographs (including instruments with mass spectrometer detectors, flame ionization detectors, and electron capture detectors), UV-vis spectrometers, a spectrofluorimeter, an isotope ratio mass spectrometer, X-ray fluorescence and diffraction instruments, and electrochemical analyzers (including spectroelectrochemical systems). Students also have access to a 108-node Linux cluster and several molecular mechanics and molecular dynamics software programs. Library facilities include over 100 journal subscriptions in chemistry plus numerous texts and related books.

Faculty

Our faculty provide excellent research opportunities in analytical, biochemistry, inorganic, organic, and physical chemistry. The broad interests within the faculty have resulted in interdisciplinary research projects in collaboration with scientists and professors in other science areas: agricultural chemistry, biotechnology, clinical chemistry, forensic chemistry, forensic biochemistry, chemical physics, enology, nutritional science, and molecular biology. Research projects have involved local facilities such as the California State Crime Laboratory, University Medical Center, UCSF Fresno Medical Education Program, USDA Research Station, U.S. Veteran's Administration Hospital, U.S. Forest Laboratory, and Valley Children's Hospital.

The graduate faculty are dedicated to providing students with a high-quality, rigorous M.S. program. Several of the faculty have received awards for the quality of their mentoring and teaching. They are widely respected in their field and regularly publish their work in leading scientific journals. The faculty have received funding to support their work from private foundations, and state and federal agencies, including the National Institutes of Health and the National Science Foundation. They also work with researchers at several National Laboratories and a number of top-tier research universities.

Careers Opportunities

What You Can Do

Become a professional chemist, plan a career in the medical professions, or continue study toward a career in forensic science or biotechnology

What You Can Earn

- High School Teacher, \$56,101 (in our region)
- Chemist I, \$48,788 (in our region)

Source: HR reported data from salary.com as of December 2012

Computer Science

About the Department

Shih-Hsi "Alex" Liu, Department Chair
Science II Building, Room C255
559.278.4373
csm.fresnostate.edu/csci/

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 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.

For the computer science major, courses are offered 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.

Interesting Classes You Might Take

- Introduction to Programming and Problem Solving
- Structures of Programming Languages
- Web Programming

- Artificial Intelligence Programming
- Bioinformatics Computing
- Wireless Communications and Mobile Computing
- Game Development
- Machine Learning
- Big Data Analytics
- Computer Security
- Software Engineering
- Database Systems
- Computer Graphics
- Design and Analysis of Algorithms
- Parallel Processing
- Simulation
- Reinforcement Learning

What You Can Learn

- Computing knowledge based on the most recent ACM computing curricula recommendations.
- Modern topics courses covering current advances and methods in computing.

Facilities

The department maintains three laboratories for use by students taking computer science classes. Individual faculty members possess high-end workstations/servers, cloud service credits and licensed software for teaching and research.

Career Opportunities

Graduates of the Computer Science program find job opportunities in software industry and other industries that require computing.

What You Can Earn

- Programmer, \$63,904 (in our region)
- Software Engineer, \$80,239 (in our region)
- Application System Architect, \$112,126 (in our region)

Source: HR reported data from salary.com glassdoor.com and salary.com as of January 2022

Earth and Environmental Sciences

About the Department

Dr. Mara Brady, Chair
 Science II Building, Room 114
 559.278.3086
csm.fresnostate.edu/ees/

Do you want to have a career that has a positive impact and helps your community? A major in the Earth and Environmental Sciences prepares you for a career where you can explore, understand, and monitor the earth to protect it and the people who live on it. The Earth and Environmental Sciences are interdisciplinary, integrating principles of physics, chemistry, biology, and mathematics, as well as quantitative and critical thinking skills, to address geological and environmental challenges. Our close-knit department gives students the chance to get to know faculty personally and every student has the opportunity to conduct research or complete an internship before they graduate. Our program emphasizes field and laboratory investigations of the environment and its geological context and history. Over 18 courses include field trips where we take advantage of the university's proximity to the Sierra Nevadas, the California Coast Ranges, coastal California, and the desert provinces. Our unique location gives faculty and students access to an unparalleled outdoor laboratory, all within short trips from the university.

Degree Programs

Environmental Sciences, B.S. 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 soils, pollution abatement, water resources, ecosystem protection, restoration, or management. Coursework and research emphasizes field and laboratory investigations of the environment. We take advantage of the university's

proximity to the Sierra Nevadas, the California Coast Ranges, coastal California, and the desert provinces. Our unique location gives faculty and students access to an unparalleled outdoor laboratory, all within short trips from the university. Every student has an opportunity to complete a research project before they graduate. 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.

Interesting Classes You Might Take

- Natural Disasters and Earth Resources
- Geochemistry
- Sedimentology
- Environmental Sampling

What You Can Learn

- Applied skills for employment in the wide variety of career paths (policy, planning, governmental monitoring, restoration etc.)
- Quantitative approaches and solutions to environmental challenges
- Improve critical thinking skills and their application to scientific questions and approaches

Geology, B.S. 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. Coursework and research emphasizes field and laboratory investigations of the environment and its geological context and history.

Interesting Classes You Might Take

- Natural Disasters and Earth Resources
- Geochemistry
- Sedimentology
- Environmental Sampling

What You Can Learn

- Applied skills for employment in the wide variety of career paths (policy, planning, governmental monitoring, restoration, consulting, petroleum etc.)
- Quantitative approaches and solutions to environmental challenges
- Improve critical thinking skills and their application to scientific questions and approaches

Geology, M.S. 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.

Water Resources Management, M.S. is an online degree program offered through the Division of Continuing and Global Education. This program is designed 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.

A **Minor in Geology** is available to students in all fields who want to enhance their degrees with additional training in earth sciences.

Career Opportunities

Environmental Sciences

Do you want to have a career that has a positive impact and helps your community? The major prepares you for a career where you can explore, understand, and monitor the earth to protect it and the people who live on it. Environmental Science is 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 soils, pollution abatement, water resources, ecosystem protection, restoration, or management.

What You Can Earn

- Environmental Consultant (entry-level), \$65,000 (in this region)
- Environmental Manager, \$101,507 (in this region)
- Air Quality Specialist, \$60,000-84,000 (CA State Position, this region)

Source: Qualified job postings as of February 2021

Geology

Geology is an interdisciplinary discipline, integrating principles of physics, chemistry, biology, and mathematics, as well as quantitative and critical thinking skills, to address geological and environmental challenges. 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.

What You Can Earn

- Geologist I, \$61,000 (in this region)
- Petroleum Geologist II, \$94,000 (in this region)
- Environmental Consultant (entry-level), \$65,000 (in this region)
- Environmental Manager, \$101,507 (in this region)
- Air Quality Specialist, \$60,000-84,000 (CA State Position, this region)

Source: Qualified job postings as of February 2021

Mathematics

About the Department

Carmen Caprau, Department Chair
Peters Business Building, Room 381
559.278.2992
csm.fresnostate.edu/math/

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, 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 industry or for government agencies.

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 MATH 75A and MATH 75B], MATH 76, and MATH 77) are essential for the first two Actuarial Examinations offered by the Society of Actuaries.

Interesting Classes You Might Take

- Introduction to Advanced Mathematics
- Mathematical Software and Programming
- Discrete Structures
- Theory of Numbers
- Graph Theory
- Mathematical Modeling
- Linear Algebra and Abstract Algebra
- History of Mathematics
- Applied Complex Analysis
- Differential Geometry

- Mathematical Statistics
- Applied Probability

What You Can Learn

- The use of mathematics in the modern world. The language and problems of mathematics, including set theory, symbolic logic, types of proofs. Techniques of data analysis and mathematical modeling. How calculus can be used to solve problems in science and engineering. Developing skills in logical thinking and problem solving.

Careers Opportunities

A degree in mathematics can open the door to a huge range of amazing careers. After all, math is involved in just about every job in some way, and it's particularly essential in the in-demand fields of science, technology, and engineering. Math majors tend to have well-developed skills in logical thinking and problem solving. They are experts at analyzing data and creating models to extract meaningful conclusions. They can identify patterns and use quantitative data to construct solutions. That's why the kind of jobs you can get with a math degree are so diverse. You could pursue careers in areas like data science, insurance, banking, education, logistics, and more.

Math skills are clearly important in many careers, most notably the science, technology, and engineering professions. But such skills also feature prominently in some careers that may not seem like a natural end point for someone with a math degree. Video game developer and computer animator are just two examples of less-obvious jobs that actually use calculus, for instance.

What You Can Do

- Teach, pursue advanced degree, or work in finance-related fields, business, government, and industry; actuarial work.
- A major in mathematics is a springboard to a wide range of rewarding careers. Whether you focus on theoretical mathematics, applied math or statistics, the analytical and quantitative skills you develop in a math program are valuable assets that many employers need. Take a look at some of the types of organizations that hire math majors:
- Government agencies and academic research institutes
- Engineering firms
- Biomedical and health services companies
- Insurance agencies
- Real estate firms
- Medical device manufacturers
- Airlines and other transportation service providers
- Financial institutions

What You Can Earn

The list below is meant to inspire your career exploration, but don't think you're limited to these suggestions. Many jobs that don't specifically mention math degrees are available to graduates with these skills, so don't sell yourself short. You likely have more options than you realize. It should be noted that several careers in the mathematical sciences also require a master's or doctoral degree.

- High school math teacher: median salary - \$61,820
- Data scientist: median salary - \$100,910
- Insurance underwriter: median salary - \$76,390
- Purchasing agent: median salary - \$75,410
- Market researcher: median salary - \$63,920
- Cost estimator: median salary - \$65,170
- Accountant: median salary - \$77,250
- Operations research analyst - \$82,360
- Financial advisor: median salary - \$94,170
- Actuary: median salary - \$105,900
- Mathematician and Statistician: median salary - \$96,280

Source: Bureau of Labor Statistics, U.S. Department of Labor, Occupational Employment Statistics.

Physics

About the Department

Douglas Singleton, Department Chair
McLane Hall, Room 173
559.278.2371
FAX: 559.278.7741
csm.fresnostate.edu/physics/

Why study physics? Physics is a fundamental science that is the basis of all sciences, from chemistry, engineering, to medicine. What do physicists do? We ask questions such as what is matter made of? The answers we get from our theoretical models and experiments are applied to study microscopic and macroscopic properties of matter, to diagnose, treat, and manage diseases and disorders, and to study the origin and evolution of the entire universe.

Interesting Classes You Might Take

- Nuclear Medicine
- General Relativity (learn about black holes)
- Astrophysics/Observational Astronomy (find black holes)

What You Can Learn

- The nature of space and time
- Why at the smallest scales nature is random
- Do research at the Large Hadron Collider to discover new particles
- Learn how physics can be used in medicine
- What's on the other side of a black holes' event horizon

Career Opportunities

The program offers preparation appropriate to employment in government and industry involving a range of activities from laboratory work to technical sales. It also offers appropriate background preparation for graduate study in physics and a large number of other fields. With an appropriate choice of electives, it provides a very strong premedical, predental, or pre-optometry program.

Beyond professional goals, the study of physics provides a deep understanding of fundamental processes which underlie our physical world and fosters methods of inquiry which promotes intelligent analysis.

What You Can Earn

- Radiation Physicist, \$164,036
- Physicist I, \$59,260HS
- Physics Teacher, \$63,640 (Average) / \$38,875 (beginning)*

Sources: salary.com HR Reported data as of December 2012, *American Federation of Teachers

Psychology

About the Department

Lorin Lachs, Department Chair
Science II Building, Room 312
559.278.2691
csm.fresnostate.edu/psych/

Psychology is the scientific study of behavior -- including human thought, emotion, and action -- and the application of scientific knowledge to the solution of real-world problems. It includes a wide variety of topics, including perception, learning, memory, thinking, emotion, personality, social interaction, development, and abnormal behavior. Psychologists recognize that understanding behavior in all its complexity requires studying it from multiple perspectives. A thorough understanding of memory, for example, requires knowledge ranging from the neural structures and processes that underlie it to the social and cultural forces that influence it.

Students majoring in psychology take core courses in general psychology, statistics, and research methodology, along with additional courses in each of the primary areas of the discipline. There are also numerous opportunities for students to supplement their coursework with hands-on experience in faculty research labs and in the field under faculty supervision. Advanced and well-qualified students can participate in our senior honors program. These students design, conduct, and present an original research project as a senior thesis.

Psychology majors learn to think critically, write and speak clearly, identify and solve problems, and work effectively both individually and in groups. As a result, the study of psychology provides excellent preparation for graduate study and careers in a variety of fields.

Interesting Classes You Might Take

- Abnormal Psychology
- Introduction to Clinical Psychology
- Personality
- Social Psychology
- Developmental Psychology
- Cognitive Psychology
- Introduction to Neuropsychology

What You Can Learn

- How scientific research in psychology is conducted.
- The role of the brain in human behavior, thought, and feeling.
- The causes and consequences of many psychological disorders.
- How humans and animals learn and remember.
- How human behavior varies across cultures.
- How human behavior changes and develops over the lifespan.

Career Opportunities

An undergraduate education in psychology at California State University, Fresno is broad, flexible, and can be tailored to your own interests and goals. This makes it excellent preparation for a wide variety of careers. Psychology majors become school counselors, social workers, clinical psychologists, and neuroscientists. However, they also become teachers, police officers, data analysts, and human resources specialists. With the appropriate pre-professional education, they go on to medical school, dental school, and law school.

What You Can Earn

- With a Bachelor's Degree
 - Behavior Technician, \$38,502
 - Human Resources Assistant, \$45,153
 - Police Officer, \$62,100
- With a Master's Degree
 - Clinical Research Coordinator, \$67,930
 - Licensed Professional Counselor, \$70,553
 - School Psychologist, \$95,311
- With a Doctoral Degree
 - Clinical Psychologist, \$111,587

Source: HR reported data from salary.com as of March 2023

College of Social Sciences

About the College

Dr. Elizabeth A. Lowham, Dean
Social Sciences Building, Room 108
5340 N. Campus Dr., MS SS-91
Fresno, CA 93740
Phone: 559.278.3013
socialsciences.fresnostate.edu

The College of Social Sciences studies the human experience, including the depth of the past and the breadth of the entire planet. We place emphasis on learning practical skills to aid you in your career. Our students do internships, participate in archaeological digs, or do service-learning projects with a non-profit agency. Students can assist on research projects or organize a social change project.

Whatever a student's major, they enjoy our witty and talented faculty and our caring staff as they discover our social world.

Mission and Vision

The mission of the college is to seek and impart knowledge of human social experience in all its diversity in order to educate students and benefit humanity.

Understanding the world and our place in it requires a well-rounded education. Accordingly, the college seeks to instill a concern for human values and civic responsibility and to provide substantial knowledge drawn from the social sciences. Such values and knowledge can help a student respond effectively to many challenges and opportunities. Indeed, applications of the social sciences are needed today more than ever throughout the world.

As students advance in their knowledge of societies and cultures, including their own, they learn communication skills and gain valuable understanding of people from different backgrounds. Global awareness, together with an appreciation of relationships between society and nature, is a fundamental aspect of learning in the social sciences. The college teaches students to think clearly, critically, and analytically; this allows students to engage in the solution of complex social problems. Our graduates know the worth of practical as well as professional skills. They realize that careers can be pursued successfully only with the benefit of humanistic values and social/cultural insights. The college also fosters respect for human diversity and a sense of responsibility for the enlightened stewardship of the ecosystems of which we are a part. Thus we endeavor to prepare students to adapt both wisely and resourcefully to the ever-changing world.

The College of Social Sciences offers an array of undergraduate and graduate programs from historical inquiry to projections for our future.

As a leader in liberal arts education, the College of Social Sciences provides excellent preparation for a wide range of careers in academia, government, business, and many other venues in the public and private sectors.

Advising

The College of Social Sciences Advising Center is located in McKee Fisk, Room 207. The center strives to empower students to be active, responsible learners by fostering lifelong learning and student development through a holistic advising approach.

Social Sciences Interdisciplinary Degrees and Programs

- Global Awareness, Certificate
- Single Subject Credential - Social Science
- Social Science, B.A. (Continuing & Global Education)

Africana Studies

About the Program

Dr. Meta Schettler, Program Coordinator
Science I Building, Room 182
Office: 559.278.2832
Direct: 559.278.4593
FAX: 559.278.7268
Email: mschettl@csufresno.edu
socialsciences.fresnostate.edu/afsr/

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 offers interdisciplinary courses leading to the Bachelor of Arts in Africana Studies as well as multiple certificates and a minor in Africana 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 professional 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 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.

Interesting Classes You Might Take

- Black Popular Culture
- Critical Thinking About Race
- Black Protest
- Hip Hop Culture
- The African American Community

What You Can Learn

- Appreciation for the heritage of African peoples and their contributions to the shaping of the fabric of American life and history
- Historical and contemporary experiences of African Americans
- Describe and actively engage with anti-racist and anti-colonial issues and the practices and movements in BIPOC communities to build a just and equitable society

Certificate in Racial Understanding

A program of study designed to prepare students and practicing professionals to develop knowledge and skills necessary to understand racial difference and underlying racism and manage conflict resulting from it. The certificate seeks to promote racial awareness and racial harmony, diversity competency, and cultural understanding in our multiracial and multicultural society.

Certificate in Africana Historical Experience

A certificate designed for concentrated study of the African American experience in the United States for students interested in developing their knowledge and analysis of African American history, race relations, literature, activism, and resistance to racial hegemony. The certificate seeks to foster multicultural competency for future teachers and to offer greater knowledge, skills, and understanding of Africana Studies as a discipline and field in academia.

Career Opportunities

Africana Studies uses an interdisciplinary and comparative perspective to illuminate the connectedness of the human experience and provide culturally-appropriate knowledge and skills necessary to understand the experiences of African peoples all over the world and African Americans in the United States.

We seek to build bridges across similar "Ethnic or Interdisciplinary" programs at Fresno State (e.g., Armenian Studies, American Indian Studies, Asian-American Studies, Chicano and Latin American Studies, Women's, Gender and Sexuality Studies, and Jewish Studies) as well as other traditional academic disciplines (e.g., Anthropology, History, Social Work, Economics, Political Science, Geography, Sociology, Theatre Arts, etc.) that provide knowledge and skills needed to understand the institutional arrangements and cultural constructions as they affect the contemporary American experience of race and ethnicity.

What You Can Earn

- High School Teacher, \$63,500
- Social Worker, \$77,470
- Psychologist, \$95,000

Source: estimations calculated at salary.com as of March 2023

Anthropology

About the Department

Dr. Dvera Saxton, Department Chair
Peters Business Building, Room 385
559.278.0887
FAX: 559.278.7234
socialsciences.fresnostate.edu/anthropology/

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. Biophysical anthropology concerns the biological aspects of humanity, including human evolution, genetics, forensic anthropology, and primatology. Cultural anthropology explores the diversity of human culture to understand both differences and similarities among human groups. 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 the development of human 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 across time and space, enabling them to understand and interact effectively in a wide variety of contexts;
- 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 elective curriculum enables students to focus on a specific subfield and to prepare for advanced study or employment in a wide variety of fields. The minor is a briefer but balanced survey of the discipline, designed to complement any major whose graduates need to understand and interact with people from different cultural backgrounds.

Interesting Classes You Might Take

- Introductory Fieldwork in Archeology
- World Cultures
- Anthropology of Health, Illness, and Healing
- Peoples and Cultures of East Asia

What You Can Learn

- How culture has made possible the range of different societies
- Basic methods and strategies for archeological excavation
- How to think critically and use reasoning when considering topics of race/intelligence, region/values, and social policy.

Special Resources and Facilities

The Anthropology Department provides student training in both archaeological and ethnographic fieldwork. All students pursue specialized training in our archaeological and ethnographic field schools, and advanced students have the opportunity to work in our archaeology and forensic anthropology laboratories. We encourage internships as an important aspect of student development and help place advanced students as interns with a large variety of organizations.

Career Opportunities

The Department of Anthropology provides undergraduate training (major or minor) in anthropology with emphases in Archeology, Cultural and Physical Anthropology. Fieldwork opportunities through the Institute of Public Anthropology and our Archeology field school provide multiple opportunities for students to gain hands on research in ongoing investigations.

What You Can Earn

Employment Opportunities posted on the Society for Applied Anthropology website

Chicano and Latin American Studies

About the Department

Ramon Sanchez, Department Chair
Social Science Building, Room 226A
559.278.2848
socialsciences.fresnostate.edu/clas/

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, Latin America, and 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 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 Chicana/Latina people 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 Chicana 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 Chicana/Latina 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 Chicana and Latin Americans.

Interesting Classes You Might Take

- Music of Mexico and the Southwest
- Critical Thinking in Chicano and Latin American Studies
- Chicano Literature
- Cultural Change and the Latino

What You Can Learn

- The Latino population's contribution to the development of a multicultural nation during the late twentieth century
- About Latin America and its nations, history, problems and realities
- Chicano artistic expression with attention to cultural continuity
- Analysis of the customs, values, belief systems, and their symbols

Los Danzantes de Aztlán. Los Danzantes de Aztlán is the premier Mexican Dance group founded in the department in 1970 by Professor Ernesto Martinez, a pioneer in Mexican folkloric dance in the Central Valley. The troupe has captivated audiences with its beautiful, authentic costumes and precise dance execution. Under the current direction of Dr. Victor M. Torres, the troupe has consistently earned top awards in national and international competitions. It is the only Mexican dance group in the entire San Joaquin Valley (Stockton to Bakersfield), and the only University organization in California to be invited to perform at the prestigious San Francisco Ethnic Dance Festival on three occasions. The group also plays an important role in student recruitment as it inspires young dancers to attend Fresno State and participate with Los Danzantes de Aztlán. The troupe achieves this via its many events, such as the High School Folklorico Summit and the Cal State University Folklorico Show. Due to its professionalism, its exemplary role as a cultural bridge between the University and the community, and its vital artistic and educational contributions to the university and to the region, Los Danzantes de Aztlán has been designated as an official ambassador of the University. Los Danzantes de Aztlán is the only organization of its kind in the entire CSU system to have this distinction.

Career Opportunities

Chicana and Latinx are the largest ethnic group in California. This segment of our population will have a major impact on our society, as its presence translates into an increasing economic and political influence. Crucial social, economic, and political decisions will be made that affect this group and the nation at large. The growth of Latinx-owned businesses, Spanish language media networks, and political organizations are all indicators of the importance of the Spanish-speaking people in the U.S. economy.

Chicano Studies majors are trained to analyze social issues, to think critically, and to conduct research. All majors receive applied as well as theoretical training with a school or community agency to observe firsthand the social issues and theories which they study. These skills are useful in professional life and are valued in the public and private sectors.

Students of non-Latinx origin find that Chicano and Latin American Studies courses are personally rewarding because they enable them to understand and relate to persons of different social and cultural backgrounds. Chicana and Latinx students find these courses highly conducive to strengthening their sense of identity and pride in their heritage.

Students who graduate with a B.A. in Chicano Studies or Latin American Studies, or who minor in Chicano/Latino Studies and Latin American Studies work in such fields as education, public administration, psychology, marketing, journalism, social services, and throughout the public and private sectors. Physicians, educators, lawyers, counselors, civil service employees, and other professionals have found that training in Chicano and Latin American studies improves their abilities to serve their clients and enhance their employment and advancement opportunities.

Students with a B.A. in Chicano Studies can enter master's or doctoral programs in the humanities and social sciences and in professional schools in such areas as Chicano studies, ethnic studies, anthropology, political science, history, public administration, Latinx literature, multimedia, social work, and education. Also, students are encouraged to pursue double majors and minors; one in Chicano Studies and the second in a professional area of their preference. Students with questions related to their future careers or seeking advising assistance should consult with the major and minor advisors of the Chicano and Latin American Studies Department.

What You Can Do

Pursue a career in:

- U.S.-Mexico Relations
- Teaching and Education
- Social Work and Counseling
- Law
- Government work

Child and Family Science

About the Department

Kathleen Dyer, Department Chair
Family and Food Sciences Building, Room 214
559.278.2283
socialsciences.fresnostate.edu/cfs/

The Child and Family Science Department is dedicated to improving the quality of life for children and families through education, research, and service. The department offers two degree options toward this end: (1) Child Development and (2) Family Science.

Bachelor of Science in Child and Family Science

Child Development Option. The Child Development program provides breadth and depth in the scientific study of child development, along with practical applications in disciplines that require direct interaction with children. It provides an excellent foundation for careers in child care, program administration, or work in health settings and other human services with children. It prepares students for post-graduate work toward a teaching credential, school psychology, or social work.

Interesting Classes you Might take

- Introduction to Child Development
- Culture and Diversity
- Introduction to Family Science
- Infant / Toddler Development
- Adolescent Development

Family Science Option. The Family Science program focuses on the scientific study of the family relationship context of child and adult development. Courses correspond with suggested content areas outlined by the National Council on Family Relations (NCFR), including internal dynamics of families, interpersonal relationships, human growth and development, families in society, parent education, family resource management, family law and public policy, and family life education. Graduates pursue opportunities in family life education (e.g., parenting education and relationship enrichment), military family support, and child and family service agencies. It provides an excellent foundation for graduate training in family therapy.

Interesting Classes you Might take

- Risk and resilience
- Family Theory
- Culture and Diversity
- Parent Education
- Intimacy

What You Can Learn

- Physical, social, emotional, and intellectual development from conception through adolescence

- Families, their place within society, and their influence on human behavior

Criminology

About the Department

Peter English, Department Chair
 Science II Building, Room 159
 559.278.2305
 FAX: 559.278.7265
socialsciences.fresnostate.edu/criminology/

The Department of Criminology offers a Bachelor of Science degree in Criminology, a Bachelor of Science degree in Forensic Behavioral Sciences, and a Master of Science degree in Criminology. These programs are ideally suited to students planning professional and/or academic careers in criminal justice related fields. Department offerings are 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 also offers a Criminology minor. The department will not accept a change of major undergraduate student with a cumulative GPA less than 2.5.

Undergraduate Program

The Criminology major is designed to prepare students for beginning professional work in criminal justice and to provide preparation for graduate work including law school. Criminology courses at the undergraduate level include integration of theoretical and applied materials of an interdisciplinary nature. 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. An internship course is required in the corrections, law enforcement, and victimology options. The Forensic Behavioral Sciences major prepares students interested in the application of other behavioral sciences - such as psychology, anthropology, social work, and linguistics - to the criminal justice system. However, it is also designed to prepare students interested in traditional criminal justice careers.

Honors Program

The Department of Criminology Honors Program has several major components that are completed over the course of two years. Each fall semester students will take one of the two core honors courses, CRIM 100H and CRIM 170H, such that they complete both during their time in the program. These courses are designed to provide advanced study of research and theory in criminology. In addition, students will annually (during the spring semester) participate in an honors seminar (CRIM 160H) that explores specialized areas, new developments, and syntheses of criminological processes and theory.

The program provides highly qualified advanced students with the opportunity to sharpen their analytical abilities and expand their knowledge of criminology. Minimum criteria for application to the program include second semester sophomore standing and a GPA of at least 3.5 prior to enrollment. Applications are accepted in the spring semester for the following academic year and the Honors Committee oversees the selection process. Accepted students must maintain a GPA of at least 3.5 to remain in the program. Successful students will graduate with a B.S. in Criminology or Forensic Behavioral Sciences with Honors Distinction, an inscribed Smittcamp medallion, and special recognition at graduation.

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.

Interesting Classes You Might Take

- Crime and Violence in America
- Forensic Science
- Forensic Cognitive Science
- Community-Based and Institutional Corrections
- Victim Services

- Restorative Justice
- Administration of Justice
- Criminal Law
- Professionalism in Criminal Justice
- Juvenile Delinquency
- Criminal Justice Counseling
- Family Violence
- Alcohol, Drugs and Criminality
- Psychology of Criminality
- Trauma and Crisis Intervention
- Internships in Law Enforcement, Corrections, and Victimology
- Homeland Security

What You Can Learn

- The composition, manufacture, use, and misuse of drugs and their relationship to criminality
- The social, psychological, and biological bases of criminal behavior
- Typology and history of family abuse
- Crimes' causal factors, agencies of justice, treatment processes, and programs for control and prevention of juvenile delinquency

Career Opportunities

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, forensic behavioral sciences, and victimology/victim services.

What You Can Earn

- Police Patrol Officer, \$57,800 (our region)
- Correctional Officer, \$46,161 (our region)
- Victim Services Advocate \$40,650 (CA)
- Forensic Psychologist (PhD; Licensed) \$104,787 (CA)

Source: HR Reported data on salary.com as of December 2021

What You Can Do

Pursue Careers In:

- Local and State Law Enforcement Agencies
- Parole
- Probation
- Psychological Forensic Assessments
- Psychological Forensic Research
- Counseling Services
- Victim Services
- Domestic Violence Shelters
- Human Trafficking Support Services
- Rape Crisis Centers
- Elder Abuse Services
- Victim Advocacy Services
- Victim and Witness Assistance Programs
- Department of Corrections and Rehabilitation
- Alcohol Beverage Control
- Office of Criminal Justice Planning
- Department of Motor Vehicles
- Fish and Game Department

- Border Patrol
- FBI
- Secret Service
- Bureau of Alcohol, Tobacco and Firearms
- Park Service
- Customs and Immigration
- Federal prisons
- Children and Family Services
- Coroner's Office
- Juvenile Detention Facilities
- District Attorney Investigations
- Public Defender Investigations
- Highway Patrol
- Criminalistics
- Social Services
- Drug Enforcement Administration
- Marshals Service
- Internal Revenue Service

Geography and City and Regional Planning

About the Department

Michelle Calvarese, Ph.D. | Professor & Department Chair
 2555 E. San Ramon Ave. M/S SB 69, Fresno, CA 93740
 Department Phone: (559) 278-2797
 Fax: (559) 278-7268
socialsciences.fresnostate.edu/geography/

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.

Interesting Classes You Might Take

- Introduction to Community Planning
- Environmental Planning
- Introduction to Urban Design
- Community Development Theory & Practice
- Transportation Planning
- Planning Law & Administration
- Economics for Planners

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.

Career Opportunities

Urban and regional planners develop land use plans and programs that help create communities, accommodate population growth, and revitalize transportation infrastructure and public facilities in towns, cities, counties, and metropolitan areas, and also preserve natural resources, and as well address problems caused by pollution, and to use planning to reduce the impact of natural disasters.

What You Can Do

- Employment of urban and regional planners is projected to grow 13 percent from 2016 to 2026, faster than the 7% average for all occupations. Demographic, transportation, and environmental changes will drive employment growth for planners. (U.S. Bureau of Labor Statistics)
- California is a state requiring all municipalities and counties to develop and adopt a General Plan with at least seven elements, and to update plan elements on a 5-year basis.
- Green House Gas Reduction targets increase the need for municipalities and counties develop their own Climate Action Plans.
- Water quality and quantity management are matters of great importance to central and southern California. Water quantity and quality districts throughout the state employ planners.
- Across the country, about two-thirds of all planners are employed in the public sector. In 2010 there was an estimated 245 planners in the Central Valley. This is expected to increase to 282 by 2020 and to 375 by 2030.
- California has: 58 counties, 451 cities, 3,500 special districts, dozens of consulting firms, and state and federal positions, and they all need planners.

History

About the Department

William Skuban, Department Chair
 Social Science Building, Room 101
 559.278.2153
socialsciences.fresnostate.edu/historydept/

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. 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.

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, 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.

What You Can Learn

- Medieval life and culture such as warfare, commerce, art and architecture, and learning
- Review of theory and characteristics of genocide
- Significant events from the end of the Civil War to the present
- Economic, political and social development in world history from the earliest times to the modern period (1500).

Faculty

The Department of History has more than 15 faculty members offering a wide variety of courses in the history of Europe, the United States, Latin America, the British Empire, Africa, the Middle East, and the Far East, as well as courses in intellectual and cultural history, social history, military history, and the history of women.

Career Opportunities

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. History majors are trained to read with comprehension and to compare and analyze both written and oral material. In addition they must know how to evaluate evidence and sources, how to critique the writing of others, and how to do research and writing on their own.

What You Can Earn

- Public School Teacher, \$52,085 (in our region)

Source: HR Reported data from Salary.com as of December 2012

What You Can Do

Prepare for careers in:

- law
- government service
- librarianship
- journalism
- publishing
- public relations
- social services
- urban planning

- foreign service
- insurance
- marketing
- advertising

Political Science

About the Department

Lisa A. Bryant, Department Chair
 McKee Fisk Building, Room 244
 559.278.7612
socialsciences.fresnostate.edu/polisci/

Courses offered by the Department of Political Science are intended to help all students become more effective participants in a democratic society, both as makers of public policy and as individuals affected by those policies. Students study voting, elections, the structures of government institutions, and how governments around the world differ and interact. They also explore local, national, and global issues. We prepare our majors for a wide variety of careers in government, education, business, journalism, the nonprofit sector, and international affairs, as well as law school and graduate school.

Students may elect to concentrate on American government and politics, international and comparative politics, legal studies, or public policy. Detailed course and career information on each of these optional tracks is available. For those who achieve a high measure of proficiency in their undergraduate program, the department offers advanced work leading to the master's degree in public administration.

Interesting Classes You Might Take

- Presidential Politics
- Constitutional Law
- Water Politics and Policy
- Campaigns and Elections
- State and Local Government
- International Law and Organization
- American Foreign Affairs

What You Can Learn About

- Political parties; citizen political advocacy; election of public officials; political institutions
- Military and economic power; political violence; democratic peace; international organizations; globalization; nationalism; imperialism; environmental politics; foreign policies of specific nations
- Freedom and individual rights, democracy, majority rule, equality, law and authority, power, constitutional foundation of American government, social class and structure, revolution

Career Opportunities

Political Science is the study of who has the power to make laws for society, the institutional structures that guide how this power is used, and the impact of public policies on society. Our graduates have gone on to serve in Congress, in the state legislature, as city managers, as urban planners, as city council members, as lawyers and judges, as mayors, as union leaders, as business owners, as educators, as non-profit managers, as military officers, as civic organizers, and more. Numerous leaders in the San Joaquin Valley are our graduates.

What You Can Do

- Manage political campaigns
- Pursue a career in public office or law
- Advocate for policy change
- Join the Peace Corps or Foreign Service

Sociology

About the Department

Jennifer Randles, Department Chair
Social Science Building, Room 211A
559.278.2234
socialsciences.fresnostate.edu/sociology/

Sociology is the scientific study of human social life. Sociologists seek to describe and explain patterns of human activity. Some sociologists study small groups, while others study organizations, institutions, or entire societies. The findings from sociological research often challenge common sense explanations. The practice of becoming a sociology student will challenge your thinking and increase your skills. Sociology majors receive strong grounding in classical and contemporary social theory, quantitative and qualitative, methods of conducting social research, and techniques of analyzing social data. Encouraging student research is one of the hallmarks of sociology at Fresno State. Please consider joining us for the surprising study of social life!

The Sociology Department currently offers a B.A., minor degree, and two certificates: 1) the Humanities Certificate in Administration and Leadership for Community Benefit Organizations (CBOs); and 2) the Certificate in Applied Sociological Research.

Interesting Classes You Might Take

- Critical Thinking About Society
- Sociology of Popular Culture
- Medical Sociology
- Sociology of Religion

The program also offers advanced courses on various topics, including race, gender, social movements, popular culture, deviance, policy, medicine, education, the environment, food, social psychology, families, childhood, and interpersonal relationships, among others.

What You Can Learn

- Causes of the growth and decline of social organizations
- Interdisciplinary social science methods for approaching local and national social problems
- Group relations historically, cross-culturally, and in contemporary American society
- Theory and practice in basic skills of critical thinking and sociological analysis

Humanics is a certificate program offering students specialized training in administration and leadership for community benefit organizations (CBOs). The Humanics Program works with CBOs in the region to prepare leaders for service to humanity.

Applied Sociological Research. Those students interested in earning a Certificate in Applied Sociological Research complete 12 units of special study to gain skills in behavioral statistics (SOC 125), quantitative and qualitative research methods (SOC 175 and SOC 176), and using computer data analysis software (SOC 174), and may present their research at an undergraduate research conference. The opportunity to gain practical research experience by working closely with faculty adds a special dimension to the Sociology Department and assists our students as they enter professional lives after graduation or seek graduate study in a field of their choice (including sociology, social work, counseling, criminology, public administration, public health, and business).

Faculty

All faculty hold graduate degrees in the social sciences and share a commitment to excellence in teaching. Their areas of special interest are diverse, including social change, deviance, housing, race, social stratification, social psychology, social theory, and research methods. Most faculty are actively involved in research. Recent faculty research has included studies of residential segregation, food justice movements, willingness to pay additional taxes, stereotypes and ethnic prejudice, basic income and needs policies, and the social organization of sport.

Career Opportunities

What You Can Do

Students trained in sociology at California State University, Fresno have entered a wide variety of occupations. A few have become professional sociologists. While most professional sociologists teach at colleges and universities, an increasing number hold research, administration, or policy positions in a variety of settings. Many students have used the sociology degree as preparation for law or other professions such as social work, counseling, public health, library science, criminology, and public administration. Students who begin work immediately after completing a bachelor's degree in sociology usually enter careers in human services, administration/management in public or private agencies, or research in a variety of organizations.

Women's, Gender, and Sexuality Studies

About the Department

Larissa Mercado-López, Department Chair
McKee Fisk Building, Room 243
559.278.5721
socialsciences.fresnostate.edu/womensstudies/

Women's, Gender, and Sexuality Studies is an approach that places women in the center of inquiry. The primary mission of Women's, Gender, and Sexuality 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, Gender, and Sexuality Studies encourages students to apply their learning to transform their lives and their communities. Women's, Gender, and Sexuality Studies offers a vital perspective everywhere gender impacts our world.

Interesting Classes You Might Take

- Women and Work
- Women and Politics
- Women, Ethics, & the Environment
- Women, Violence, & the Law
- Women in Cross-Cultural Perspective
- Introduction to Lesbian and Gay Studies

What You Can Learn

- How to combine political and intellectual passions with scholarly research to become a leader in today's rapidly changing world.
- The role of feminist activism and feminist organizations in the promotion of social policies designed to end social inequality.
- Critical and analytical tools to understand and contribute to interdisciplinary research on issues faced by women and children in the United States and across the globe.
- The symbiotic relationship between theory and practice through experiential learning opportunities aimed at unleashing students' creativity and fostering self awareness.
- The historical, political, and philosophical roots of feminism and feminist studies across disciplines.

Career Opportunities

As a field, Women's Studies Women's, Gender & Sexuality Studies presents an exciting opportunity to anyone who wants to know more about the impact of gender on their lives and the world. The focus on a core aspect of all our identities makes the field personally rewarding and socially important. Attentiveness to diversity, power, and women's unique creative contributions to human experience are central aspects of this training. Our faculty work closely with students in order to help to foster their success. Students also find a sense of community and leadership opportunities through participation in P.O.W.E.R.: The Women's Studies Student Organization the departmental student organization for majors and minors.

Many of our students choose Women's Studies Women's, Gender & Sexuality Studies as their primary field. Other students choose to double major. Double majors say their first major defines the field in which they work and the major in Women's, Gender & Sexuality Studies gives them a special focus and edge within that field.

What You Can Do

Nationally, Women's Studies students in Women's, Gender & Sexuality Studies students have established successful careers in a variety of fields from politics to law, k-12 to graduate studies, biology to nursing, the creative arts to telecommunications, criminology to victim services, business and management to grass roots organizing, history to philosophy, and human resources to social services.

Jordan College of Agricultural Sciences and Technology

About the College

Dr. Rolston St. Hilaire, Dean
Agricultural Sciences, Room 102
2415 E. San Ramon, MS AS-79

Fresno CA 93740
Phone: (559) 278-2061
jcast.fresnostate.edu/

The Jordan College of Agricultural Sciences and Technology can offer you the education you will need to be a leader in agriculture and related sciences in the New California. We offer outstanding programs in the traditional areas of agriculture, including animal sciences, plant science, agricultural education, viticulture and agricultural business. And, we offer excellent programs in areas which are uniquely related to agriculture, including nutrition and dietetics, food science, enology, child development, family science, fashion merchandizing and industrial technology. At the heart of the nation's leading agricultural area, our 2,000 students are attracted to a quality, hands-on education closely tied to our national-class University Agricultural Laboratory (UAL), research facilities, community and industry partners.

Mission and Vision

To boldly educate students to be highly productive, innovative, and dynamic leaders in the California food and agriculture sectors, in their communities, and in their families.

The Jordan College draws on its deep roots in the Central Valley to prepare students today to be productive, resilient leaders in a sustainable global agriculture and food sector of the future.

Advising

The Jordan College Advising and Career Development Center is located in Agricultural Sciences Building, Room 110. The Advising & Career Development Center is here to assist students in the Jordan College of Agricultural Sciences and Technology in achieving their goals, both academically and professionally.

The resources and services we provide include, but are not limited to:

- Major, minor, and General education advising
- Academic Probation and Disqualification advising
- Access to internship and career opportunities
- Assistance with internship and job search strategies
- Skill development in resume writing and interviewing
- Resources to develop the skills that employers want in the new employees they hire

Jordan College of Agricultural Sciences and Technology Interdisciplinary Degrees and Programs

- Agricultural Leadership, Certificate of Special Study

Agricultural Business

About the Department

Srini Konduru, Department Chair
Leon S. Peters Building, Room 302
559.278.2949
FAX: 559.278.6536
fresnostate.edu/jcast/agbs

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.

Students are our priority. We have an open door policy. Each student is given a faculty adviser who is easily accessible and provides academic and career counseling. Ag One Grants for academic fees and books are available. Call 559.278.2061 for scholarship information and application.

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:

- 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.

Interesting Classes You Might Take

- Survey of Agricultural Economics and Agribusiness
- Farm Management
- Food and Fiber Industry Management
- Farm Accounting

What You Can Learn

- Consumer supply and demand functions
- Techniques for analyzing efficient farm resource usage
- Farm labor laws and government regulations
- Physical and economic factors affecting land values

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.
- **Institute for Food and Agriculture (IFA).** Organized to promote the economic efficiency, profitability, and competitiveness of California agriculture, IFA 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.
- **National Agri-Marketing Association (NAMA).** The Fresno State chapter of NAMA organizes field trips, brings in guest lecturers, and prepares students to participate in various national competitions organized by NAMA.
- **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.

Faculty

Faculty members are broadly trained with advanced degrees from top-ranked universities across the nation, and are highly experienced as teachers, consultants, and researchers. They bring practical insight to the classroom by being professionally active in service to California farms and agribusinesses, industry organizations, government agencies, and professional associations. Forming a strong advisee-adviser relationship with any one of the faculty can help you match your career goals with appropriate coursework.

Career Opportunities

Welcome to the Department of Agricultural Business at Fresno State! Our campus is in the heart of the Central Valley, home to some of the highest valued crops in the USA. Our program has great opportunities for student internships and future employment with the agricultural and food industries. In the most recent graduation rate report from the University's Office of Institutional Effectiveness, Ag Business majors, on average, completed the degree in less time than any other major on campus.

What You Can Do

- Production Supervisor
- Grower Relations Manager

- Produce Sales Person
- Pest Control Adviser
- Agriculture Credit Analyst
- Government Policy Analyst

Animal Sciences and Agricultural Education

About the Department

Steven J. Rocca, Department Chair
 Ag Sciences Building, Room 112, MS AS 75
 559.278.2971
jcast.fresnostate.edu/asae/

Animal Sciences and Agricultural Education prepares students for a future career in agriculture while working towards a degree in Animal Science or Agricultural Education. The Department of Animal Sciences and Agricultural Education offers degrees with options in Agricultural Communication, Teacher Preparation, and various Animal Science options. The Animal Science option has career specialization in the areas of Pre-Professional Animal Science and Pre-Veterinary Medicine. While the Animal Science production management option offers career specialization in Dairy Science, Equine Science, Meat Technology, as well as Livestock and Poultry Management. Our Animal Science curriculum integrates various topics, such as: animal evaluation, behavior, disease, genetics, health, reproduction, environmental management, marketing, muscle biology, nutrition, and physiology.

The Agricultural Education degree is designed to prepare students for careers in agricultural communication roles or as secondary agricultural teachers. Specializations under this degree include: agricultural business, animal sciences, plant sciences, or mechanized agriculture.

Instructional Facilities

- Utilizing the Beef, Dairy, Horse, Meats, Poultry, Sheep, and Swine units on campus enhances the practical application for all animal science disciplines;
- Livestock units are all maintained by students with the support of faculty to provide a hands on educational learning experience for our students;
- In addition, veterinary and physiology laboratories are used to further the development of education for our students.

Interesting Classes You Might Take in Agricultural Communication and Teacher Prep

- Introduction to Agricultural Communication
- Agricultural Publications
- Advertising and Public Relations
- Media Writing
- Publication Design
- Digital and Social Media
- Animal Science
- Plant Science and Ornamental Horticulture
- Agricultural Mechanics
- Organization, Administration, and Supervision of Agricultural Education
- Education in Agricultural Mechanics

What You Can Learn in Agricultural Education and Teacher Prep

- How to effectively communicate agricultural issues with the public
- The qualifications and career opportunities in the field of agricultural communications
- Develop the skills and knowledge necessary for a career in various agricultural communication career areas
- A foundational understanding of the agricultural industry and production systems
- The qualifications for teaching agriculture, and the content of secondary agriculture programs
- Develop the skills and knowledge necessary for a career in agricultural education
- A foundational understanding of the agricultural industry and production systems

Interesting Classes You Might Take in Animal Sciences

- Pet and Companion Animal Management

- Beef Cattle, Dairy Cattle, Horse, Poultry, Sheep, and Swine Production
- Meat Science
- Advanced livestock management courses
- Animal nutrition, genetics and reproduction
- Livestock and market animal evaluation

What You Can Learn in Animal Sciences

- Farm animal behavior, animal welfare, and animal performance
- Proper care and management of livestock
- Anatomy and physiology of farm animals
- Best practices for food safety, sanitation practices and HACCP
- How to analyze and evaluate livestock and meat
- Various skills and abilities required for animal care and veterinary practices

Career Opportunities

The Department of Animal Sciences and Agricultural Education offers options in agricultural communications, teacher preparation, basic animal science, pre-veterinary medicine, livestock business management, dairy science, equine science and meat technology. Courses integrate animal evaluation, behavior, disease, environmental management, genetics, health, marketing, muscle biology, nutrition, physiology, production, and reproduction.

Instruction in the animal science disciplines is enhanced through practical application at the various farm laboratory units. The Beef, Dairy, Horse, Meats, Sheep, and Swine units are maintained to support this educational purpose. In addition, veterinary and physiology laboratories are utilized to complement on-campus education. The department is extremely proud of its outstanding faculty and the level and quality of student activities in which they participate.

What You Can Earn

- Agricultural Communication Specialist, \$56,000 average
- Agriculture Journalist, \$53,000 average
- Agricultural Brand Manager, \$110,000 average
- Public Relations Specialist, \$53,000 average
- Social Media Strategist, \$46,000 average

What You Can Earn - Teacher Prep

- California Agriculture Teacher, \$72,000 average
- Agricultural Literacy Specialist, \$50,000 average
- Agricultural Extension Agent/Faculty, \$76,000 average

What You Can Earn - Animal Science

- Faculty in the department are your best source to help you identify a career path as well as indicate potential earnings based on your area of training.

Source: Salary fact sheets from ffa.org and AgCareers.com (2023)

Food Science and Nutrition

About the Department

Steven Pao, Department Chair
 Family and Food Sciences Building,
 Room 111, M/S FF17
 559.278.2164
jcast.fresnostate.edu/fsn/

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.

Interesting Classes You Might Take

- Food Analysis
- Food Product Development
- Food Safety for Foodservice Professionals
- Nutrition and Health: Realities and Controversies
- Culinary Science III: The principles of the Bakeshop
- Dairy Processing
- Fruit, Vegetable, and Edible Oil Processing
- Techniques for Healthy Cooking

What You Can Learn

- Concepts of nutritional therapy in disease
- Influence of nutrition on age, growth, and normal development
- Up-to-date information on all aspects of handling food, from receiving and storing to preparing and serving
- Experimental approach to development of new food products

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.

Career Opportunities

Graduates of the Department of Food Science and Nutrition have enjoyed outstanding employment opportunities in the food industry. Historically, graduates have been placed in challenging positions with salary advancement and professional prestige envied by other industries throughout the world. The following options are available:

Culinology® is the blending of culinary arts and the science of food. The discipline consists of chefs and food scientists working in research and development (its primary focus), food manufacturing, chain restaurants, hotels, ingredient supply houses, consulting, and academia. It includes other food professionals in sales, marketing, manufacturing, distribution, and the media. The professional organization of the discipline is the Research Chefs Association (<http://www.culinology.org>). The group was formed in 1996 by a group of food professionals with a common interest in the challenges facing the profession. It has become the premier source of culinary and technical information for the food industry.

Dietetics and Food Administration graduates are prepared for challenging and rewarding employment in dietetics, nutrition, and foodservice. Employment is available in hospital dietetics, nutrition consulting, school and community nutrition, education, commercial and institutional food services. This program is accredited by the Commission on Accreditation for Dietetics Education of the Academy of Nutrition and Dietetics. The Academy of Nutrition and Dietetics can be reached at 120 South Riverside Plaza, Suite 2000, Chicago, IL 60606-6995 or at 312.899.0040 ext. 5400. By completing the requirements for this option, students meet the Academy of Nutrition and Dietetics didactic requirements for dietetic registration and are eligible to apply to a Didactic Program in Dietetics (DPD) internship. To become a registered dietitian, graduates of this program must also complete a dietetic internship and pass the dietetic registration examination.

Food Science graduates are prepared for an endless variety of employment opportunities in the food industry, including laboratory, processing, production, and governmental roles. New product development, marketing, management, distribution, and field service opportunities are present in many scientific, technological, and business endeavors. Located in the center of the world's most productive food processing region, the Fresno State Food Science Program is ideally suited to provide students with both a strong academic and practical education in food science. Students can gain practical experience by working in the Dairy Processing Enterprise and the Food Processing Enterprise, or research experience through the Center for Food Science and Nutrition Research. Students can also participate in internships, projects, supervised work experience, and cooperative research. This program is based upon the educational standards of the Institute of Food Technologists (IFT). Information on careers in food science and IFT contacts can be obtained at www.ift.org.

What You Can Earn

- Registered Dietitian Nutritionist (RDN), \$65,090 (in our region)
- Food Scientist II, \$72,990 (in our region)
- Food Product R&D Scientist II, \$72,940 (in our region)

- Food Services Manager, \$74,818 (in our region)
- Regional Chef, \$135,719 (in our region)

Source: HR Reported data from salary.com as of February 2022

Industrial Technology

About the Department

Dr. Arun Nambiar, Department Chair
 Industrial Technology Building, Room 212, MS IT 9
 Phone: 559.278.2145
 FAX: 559.278.5081
<https://jcast.fresnostate.edu/indtech/>

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 program for the Bachelor of Science in Industrial Technology is accredited by the Association of Technology Management and Applied Engineering (ATMAE). The department was awarded the highest possible accreditation, six years which is valid until 2024.

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); Motorsport Club; Agricultural Systems and Technology Club and Robotics Club. Through participation in one or more of these groups, students learn more about their profession and interact with working professionals in their field. Students can also find internships in local industries to gain on the job experience.

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.

Interesting Classes You Might Take

- Energy Conversion and Utilization
- Industrial Process Control
- International Quality
- Product Design
- Project Management
- Vehicle Engine Systems
- Citrus Processing Line
- Nut Processing Line
- Automated Systems

What You Can Learn

- Different sources of energy and conversion mechanisms
- Engine theory and control
- Principles and methods of design
- Programmable logic controllers

- Project management techniques
- Quality audits

Mission Statement

The mission of the department is to prepare individuals for technical, management and educational careers in agriculture, business, industry, 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 Bee Sweet Citrus Packing Line lab, WAPA Nut Processing Line lab, computer-aided design (CAD) lab, Programmable Logic Controller lab, materials testing lab, robotics lab, woodworking lab, manufacturing labs with conventional and CNC equipment. Specialized software is used in various labs.

Career Opportunities

Industrial Technology (IT) is a field of study designed to prepare technical and/or management oriented professionals for employment in agriculture, business, education, government and industry. Industrial Technology is primarily involved with the management, operation, and maintenance of complex technological systems.

The faculty of the Department of Industrial Technology enthusiastically lend their expertise and considerable personal experience in their respective fields to help provide students with an enriching learning experience. "Hands-on" lab activities are incorporated in the curriculum to promote rapid student mastery of subjects. It is a team-work approach between faculty and students that ultimately enables the I.T. graduate to emerge with the skills and confidence required for supervisory and managerial positions in industry.

What You Can Earn

- Manufacturing Engineer I, \$68,744 (median in our region)
- Operations Supervisor, \$62,179 (median in our region)
- Quality Control Supervisor 1, \$58,790 (median in our region)

Source: HR Reported data from Salary.com as of January 2021

Plant Science

About the Department

John T. Bushoven, Ph.D., Department Chair
 Agricultural Sciences Building, Room 222
 559.278.2861
 FAX: 559.278.7413
jcast.fresnostate.edu/plantsci/

The Department of Plant Science at California State University, Fresno is located in the nation's most productive agricultural valley. Our graduates acquire a sound academic background that is deeply rooted in field-based experience in the broad array of disciplines within Plant Science. These include pomology, olericulture, agronomy, environmental horticulture, soils, irrigation, economic entomology, plant pathology, weed science, and mechanized agriculture. Our faculty hold advanced degrees in these disciplines, and regularly integrate this knowledge directly in the field and laboratories. The university's 1000 acre agricultural field laboratory, greenhouse facilities, and the Jordan Agricultural Research Center are home to cutting-edge horticultural and agronomic practices, using the latest innovations in crop production, mechanization, irrigation, soil fertility, propagation, and pest management.

Completion of a degree in Plant Science at California State University, Fresno is your gateway to a career in agriculture. Our program is also designed to provide the academic background for certification/licensing as an Irrigation Specialist, Certified Irrigation Designer, Certified Arborist, California Certified Nursery Professional, Certified Crop Adviser (CCA), Certified Professional Agronomist, Certified Entomologist, CA Department of Pesticide Regulation Certification (Agricultural Pest Control Advisor and Qualified Applicator), Certified Horticulturist, or for advanced studies in Plant Sciences. Our graduates are sought after by many of the world's leading agricultural industries and agencies and many have entered leading graduate (MS, Ph.D.) programs worldwide.

Faculty

The faculty members hold advanced degrees in their fields of specialization from leading agricultural institutions and universities in the United States. They are well-qualified teachers who, through extensive research and interaction with major agricultural industries, bring a wealth of basic and practical information into the classroom. A faculty academic adviser is assigned to work with each student to plan and design an individualized program of study to meet the student's educational and career objectives.

Many of the faculty members are involved in one or more of the Centers of the California Agricultural Technology Institute (Center for Irrigation Technology and the Viticulture and Enology Research Center) and the San Joaquin Experimental Range. These centers offer excellent opportunities to undergraduate and graduate students to participate in applied research projects that address and help solve problems faced by California's agricultural industry.

Viticulture and Enology

About the Department

Sonet Van Zyl, Department Chair
2360 E Barstow Ave, M/S VR89
559.278.2089
FAX: 559.278.4795
jcast.fresnostate.edu/ve/

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.

Viticulture - the study of growing grapes

Enology - the study of winemaking

Interesting Classes You Might Take

- Production and Marketing of Table Grapes
- Winery Management
- Regulations: Wine and Brandy
- Analytical Methods for Wine

What You Can Learn

- Strategies for producing high-quality, high-yielding grapes
- Winemaking
- Wine evaluation techniques (chemical and sensory)
- Raisin production-
- Winery Business and Marketing

Academic Excellence

The Department of Viticulture and Enology at California State University, Fresno was officially established in July 2000. 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 120 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 required to meet with their advisors regularly to monitor their progress and plan for the future. Students are strongly encouraged to become involved in student club activities.

Faculty

In their fields of specialization, faculty members hold advanced degrees from leading universities. They bring a wealth of basic and practical information into the classroom. Faculty work with each student to plan and design an individualized program of study that meets the student's educational and career objectives. Faculty members are involved in research and public service through the Viticulture and Enology Research Center. The center offers excellent opportunities for students to gain experience by participating in applied research projects that address and help solve problems faced by California's grape and wine industries.

Career Opportunities

Classes in viticulture and enology are designed to help 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 120 acres of table, raisin, and wine grape vineyards, a commercial 10,000 case 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.

What You Can Do

- Graduates from this program can develop successful careers in grape and wine production as well as industries that provide support to grape and wine producers.

Kremen School of Education and Human Development

About the College

Randy Yerrick, Dean
Kremen Education, Room 210
5005 N Maple Ave, MS ED1
Fresno CA 93740
Phone: (559) 278-0210
kremen.fresnostate.edu/

The Kremen School of Education and Human Development is a center for academic excellence and collaboration in the fields of education and counseling. Graduates will become community leaders who advocate for high standards and democratic values with attention to professional ethics and diversity.

Academics

The Kremen School of Education and Human Development focuses a tremendous amount of attention on students, academic programs, departments and the overall quality of education. We pride ourselves on the ability to prepare our students to become leaders in their field of study and to truly make a difference in the community.

Once a candidate is accepted and enrolls in any of our educator preparation programs, the candidate will be offered the approved program, meeting the adopted standards, until the candidate: completes the program; withdraws from the program; is dropped from the program based on established criteria; or is admitted to another approved program to complete the requirements, with minimal disruption, for the authorization. In the event the program closes, a teach out plan, which includes individual transition plans for each candidate as well as a plan for candidates and graduates to access their student records will be developed.

Advising

The Kremen School of Education and Human Development Center for Advising and Student Services is located in Kremen Education, Room 100. Our academic advisors, admissions analysts and credential analyst are here to help you through the journey of college. We promote student achievement and success through proactive advising, analyzing and processing local, state, and federal documents, and collaborating with all constituents. We provide timely customer service and advocate to increase students' retention, graduation, and future engagement with Fresno State.

Kremen School of Education and Human Development Interdisciplinary Degrees and Programs

- This college currently does not house an interdisciplinary program

Counselor Education and Rehabilitation

About the Department

Dr. Alicia B. Becton, Department Chair
Education Building, Room 350
559.278.0340
kremen.fresnostate.edu/departments-programs/cer.html

The Department of Counselor Education and Rehabilitation offers three master's degrees (five options) and one credential program for post-baccalaureate students seeking careers in the counseling and rehabilitation profession. All academic offerings utilize the services and facilities of community agencies and school districts within the university service area and throughout the Central Valley. Emphasis is placed on preparing highly trained, culturally competent, well-rounded professionals who are civic-minded in their service and leadership to clients and communities.

Curriculum and Instruction

About the Department

Dr. Carol Fry Bohlin, Department Chair
Kremen Education Building, Room 250
559.278.0240
carolb@csufresno.edu

Dr. Earl Aguilera, Program Coordinator, M.A. in Teaching (MAT)
Kremen Education Building, Room 233
559.278.0236
eaguilera@csufresno.edu

Dr. Christina Luna, Program Coordinator for the Multiple Subject Teaching Credential Program
Education Building, Room 459
559.278.0119
christinal@csufresno.edu

Dr. Imelda Basurto, Coordinator for the Multiple Subject Teaching Credential Program
Education Building, Room 263
559.278.0285
ibasurto@csufresno.edu

<https://kremen.fresnostate.edu/teaching-credential/singlesubject/>

<https://kremen.fresnostate.edu/departments-programs/ci.html>

The mission of the Department of Curriculum and Instruction is the preparation and continuing education of PreK-12 educators, particularly classroom 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, as well as to become educational specialists and leaders through our graduate and advanced certificate programs.

For credential candidates, supervised field experiences combined with instructional planning and evaluation opportunities provide the foundation for productive and culturally-responsive teaching.

Multiple Subject Teaching Credential Program:

The Multiple Subject ECE Bilingual Authorization Program is housed in both the Department of Curriculum and Instruction (C&I) and Literacy, Early, Bilingual and Special Education (LEBSE).

Single Subject Teaching Credential Program:

The Single Subject Teaching Credential Program is housed in both the Department of Curriculum and Instruction (C&I) and Literacy, Early, Bilingual and Special Education (LEBSE).

The mission of the Department of Curriculum and Instruction is the preparation and continuing education of PreK-12 educators, particularly classroom 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, as well as to become educational specialists and leaders through our graduate and advanced certificate programs.

For credential candidates, supervised field experiences combined with instructional planning and evaluation opportunities provide the foundation for productive and culturally-responsive teaching.

CalStateTEACH. See CalStateTEACH for program description on website.

Educational Leadership

About the Department

Dr. Jonathan T. Pryor, Department Chair
Kremen School of Education & Human Development, Room 369
559.278.0294

Dr. Jessica Hannigan, Coordinator for Educational Leadership & Administration/ CRED in Administrative Services- Preliminary Credential
Kremen School of Education & Human Development, Room 363
559.278.0456

Dr. Jonathan T. Pryor, Coordinator for Higher Education Administration & Leadership
Kremen School of Education & Human Development, Room 369
559.278.0294

Dr. Ignacio Hernández, Director for Doctoral Program in Educational Leadership
Kremen School of Education & Human Development, Room 397
559.278.0427

kremen.fresnostate.edu/departments-programs/el.html

Department Mission

The Department of Educational Leadership develops scholar-practitioners and prepares credible and relevant leaders in education committed to advancing equity and excellence in educational leadership for P-12 and higher education throughout the Central Valley.

Our values support leadership in:

- Academic integrity in designing and supporting instructional programs
- Collaboration with school districts, colleges, universities, and communities
- Diversity of backgrounds, identities, and ways of understanding
- Practice informed by research and research informed by practice
- Reflection of the lifelong learning processes

M.A. Educational Leadership and Administration

Program Description. The Master of Arts in Educational Leadership and Administration is an integrated degree and credential program for students pursuing a Master of Arts and a California Preliminary Administrative Services Credential. The integrated master's degree and credential program is a 31-semester unit program of study. Graduates earning the Preliminary Administrative Services Credential are authorized to serve in administrative roles in California P-12 public schools such as principal, vice-principal, program director, and any related administrative assignment at all school levels. The program would be offered through an 18-month cohort delivery model with an intern option as part of the cohort model for eligible students. All cohorts are in partnership with school districts throughout the Central Valley. All credential coursework and field experiences are based on standards adopted by the California Commission on Teacher Credentialing (CTC): California Administrator Performance Expectations (CAPEs) and California Administrator Content Expectations (CACEs).

M.A. Higher Education Administration and Leadership

Program Description. The Department of Educational Leadership offers a graduate program leading to a Master of Arts degree in Higher Education Administration and Leadership. The program prepares individuals interested in careers in higher education settings and agencies. The mission of the Higher Education Administration and Leadership (HEAL) program is to develop ethical leaders whose practice relies on critical thinking and is informed by research and theory to work in colleges, universities, and other educational agencies as a means of advancing social justice and diversity.

HEAL attracts individuals interested in careers in colleges, universities, and other related educational settings. During a 30-unit, four-semester, program of study, HEAL students delve into a curriculum that examines policies, practices, theories, and current issues related to the post-secondary education pipeline. Students acquire valuable analytical skills while developing their philosophies in social justice and leadership. The HEAL curriculum and the relationships with faculty lead to learning experiences that offer students the essential knowledge and skills required for exemplary practice in a variety of roles in higher education and student affairs.

Educational Leadership Doctoral Program

About the Program

Ignacio Hernandez, Program Director
Education Building, Room 310
559.278.0427
FAX: 559.278.0457
kremen.fresnostate.edu/dr-educational-leadership/index.html

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 Ed.D. program is interdisciplinary drawing from faculty from a number of academic disciplines and expert practitioners from P-12 school districts, community colleges, and universities.

All courses are taught on the Fresno State campus during the late afternoons, evenings, and/or weekends to accommodate full-time working professionals.

Ed.D. Educational Leadership Program Description. Fresno State's doctoral program in educational leadership supports the CSU system-wide effort to offer professional practice doctoral programs in Educational Leadership. Fresno State's program is designed to support working professionals poised for leadership in P12 schools and districts or community colleges. The 60-unit program of study include 48 units of coursework and 12 units of dissertation and is designed to be completed in three years of full-time study leading candidates to earn a Doctor of Education (Ed.D.) degree.

The program's cohort-based model offers two delivery format options for students: Face-to-Face and Online. Both delivery format options enable students to focus on either P12 Educational Leadership or Community College/Higher Education Leadership.

Liberal Studies

About the Department

Dr. Myunghwan Shin, Interim Department Chair
Education Building, ED 453
(559) 278-0336
mshin@csufresno.edu

Dr. Patricia Lane, South Valley ITEP Coordinator
Education Building, ED 351
(559) 278-0151
plane@csufresno.edu

kremen.fresnostate.edu/departments-programs/lis.html

The mission of the Liberal Studies Program is to provide rigorous and relevant subject matter preparation for elementary teaching that is committed to equity and social justice.

The Liberal Studies Program has received an Elementary Subject Matter Authorization from the California Commission on Teacher Credentialing. This authorization permits graduates from the program to satisfy the Subject Matter Proficiency requirement for the Multiple Subject Credential Program through completion of required coursework. This purposeful and carefully aligned sequence of courses represents the "Gold Standard" for subject matter preparation for future elementary teachers in the areas of Reading, Language, and Literature; History and Social Sciences; Mathematics; Natural Science; Visual and Performing Arts; Physical Education; and Human Development

Center for Advising and Student Services

Education Building, Room 100
559.278.0300
kremen.fresnostate.edu/students/advising.html

Career Opportunities

Liberal studies majors preparing for careers in elementary teaching should expect to find a favorable job market. Recent statistical reports for the Central Valley show that the area population and the number of school-aged children continue to grow. This pattern of growth, along with anticipated attrition from the teaching profession will require additional well-prepared, credentialed elementary teachers.

As Liberal Studies candidates prepare for entrance into the teaching profession or other careers, they are provided expert assistance from the campus Career Development Center. Assistance in preparing placement files, preparing for job interviews, and searching for suitable employment is readily available for each candidate.

Literacy, Early, Bilingual and Special Education

About the Department

Dr. Imelda Basurto, Department Chair
Education Building, Room 250
559.278.0278
kremen.fresnostate.edu/departments-programs/lebse.html

The department provides the foundation for graduates in early childhood, special education, bilingual instruction, reading/language arts, and teacher education. Our goal is to provide a foundation for our students to become leaders in education and highly skilled professionals. We hope you find that our faculty are committed to providing quality instruction for you to become a leader at your site and in education as a whole.

Lyles College of Engineering

About the College

Ram Nunna, Dean
Engineering East Building, Room 124
2320 E. San Ramon Avenue, MS EE94
Fresno CA 93740-8030
Phone: (559) 278-2500
engineering.fresnostate.edu/

The Lyles College of Engineering is the only publicly supported engineering college in the San Joaquin Valley. The mission of the college includes developing each student's potential to the greatest extent possible, provide a quality engineering education to all students and to serve students from groups that historically have not participated in a university education.

College Mission

Our mission is to provide high-quality academic programs in engineering that support the infrastructure and growth of the Central California region. With regional industry partners, these programs are linked through cooperative education opportunities, internships, projects, and course assignments.

Academic programs within the college provide support and assistive programs that enhance student comprehension and learning. Through our Pathways: Student Services Program, students can access professional development activities, tutorial services, student clubs and professional societies, and campus referrals for assistance and more.

Civil, Geomatics, Electrical, Computer, and Mechanical Engineering are nationally accredited through the Accreditation Board for Engineering and Technology (ABET) at the same standards applied to all other engineering schools and colleges nationwide. Construction Management is accredited by the American Council for Construction Education (ACCE).

The Lyles College offers seven undergraduate degree programs in Architectural Studies, Civil, Electrical, Computer, Geomatics and Mechanical Engineering as well as Construction Management. Graduate degrees include Construction Management, Civil Engineering and Civil Engineering with options in Water Resources Engineering and Environmental Engineering as well as Engineering with options in Electrical, Computer and Mechanical Engineering. The CSU Board of Trustees also recently gave approval for the Lyles College to begin the formal design of a new bachelor's degree program in Biomedical Engineering.

Accreditation

All BS degree programs offered in the Lyles College of Engineering are nationally accredited. Accreditation information at this link

Advising

The **Lyles College of Engineering Advising Center** is located in Engineering East Building, Room 243. It is the mission of the Lyles College of Engineering Advising Center to provide guidance to ensure that students are well informed, prepared to achieve their full academic potential, and have access to supplemental advising and academic support, with a special emphasis on freshman, sophomore, and incoming transfer students. We strive to collaborate and partner with Engineering Faculty Advisors, as well as administration and staff, for the student's academic success, within the College.

Lyles College of Engineering Interdisciplinary Degrees and Programs

- This college currently does not house an interdisciplinary program

Civil and Geomatics Engineering

About the Department

Dr. Fayzul Pasha, Department Chair
Engineering East Building, Room 178B
559.278.2464
engineering.fresnostate.edu/academics/index.html

Civil Engineering

Civil Engineering Program Coordinator & Department Chair, Dr. Fayzul Pasha

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 Civil Engineering Program at California State University, Fresno strives to provide the high-quality education required for students to fully develop their professional qualities and skills as civil engineers in diverse environments and to develop their personal potential to the greatest extent possible to serve society.

The Civil Engineering Program's Educational Objectives

Graduates of the Civil Engineering Program are expected to exhibit the following:

- **Technical Aptitude:** Be employed as engineers with the ability to use their technical knowledge, design, and problem-solving skills for effective professional practice throughout their careers;
- **Life-Long Development:** Exercise capabilities for life-long learning as a means to enhance their technical and professional skills to continuously enrich themselves and benefit the communities they are serving and beyond;
- **Collaborative Spirit:** Develop interpersonal and collaborative skills that function well among a diverse group of professionals for a productive career; and
- **Professional Advancement:** Advance and support the engineering profession through participation of the professional societies, civic groups, and educational institutions and/or establish a distinctive record of professional achievements.

Interesting Classes You Might Take

- Computer Applications in Civil Engineering
- Reinforced Concrete Design
- Construction Soils and Foundation
- Geotechnical Engineering Design

What You Can Learn

- Effects of earthquakes on structures
- Design of steel members and systems for buildings

- Highway traffic characteristics and highway system traffic analysis
- Stormwater management and drainage system design

Geomatics Engineering

Geomatics Engineering Program Coordinator, Dr. Scott Peterson

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 a unique educational experience that enriches the lives of GME students. The program teaches necessary discipline-related knowledge and skills to prepare students for their competency in the profession. Students learn how to protect the health and welfare of the public while expanding their base of knowledge through research and scholarship. Graduates of the program serve throughout the state, the nation and the world at large.

The Geomatics Engineering Program's Educational Objectives

- Our alumni (within three to five years after graduation), through work experience and/or graduate education in the engineering field, will be expected to:
- Be employed in the field of Geomatics Engineering and utilize their experience and skills to serve their respective industries
- Promote the profession and protect public well-being via professional services
- Engage in life-long learning and professional development activities

Interesting Classes You Might Take

- Municipal Surveying
- Route and Construction Surveying
- Green Design/Creative Thinking
- GPS Navigation

What You Can Learn

- How private land ownership rights have shaped the development of our nation into a superpower
- Computer-aided mapping
- Theory and concepts of navigation systems emphasizing real-time GPS
- United States Public Land Survey System

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 registration process prior to the start of classes.[FP1]

Changing/Adding a Civil Engineering Major

Students currently enrolled at Fresno State are welcome to change/add a Civil Engineering (CE) major offered in the Lyles College of Engineering.

In order to add/change your major, students must meet all of the following conditions: Submit an application detailing their motivation and academic/all other preparation for potential success in the new major.

1. Completion of MATH 75 (calculus I or equivalent), MATH 76 (calculus II or equivalent), PHYS 4A (or equivalent) with a grade of C (2.0) or better and an overall GPA of 2.50 are required for approval to change major.
2. Students shall meet with the department chair (or designee) and develop a plan of study.
3. Students who will be adding/changing their major with more than 144 units will need to receive approval from the Dean of Undergraduate Studies[FP2]

Changing/Adding a Geomatics Engineering Major

Students currently enrolled at Fresno State are welcome to change/add a Geomatics Engineering (GE) major offered in the Lyles College of Engineering.

In order to add/change your major, students must meet all of the following conditions: Submit an application detailing their motivation and academic/all other preparation for potential success in the new major.

1. Completion of MATH 75 Calculus (or equivalent) with a grade of C (2.0) or better is required for approval to change major.
2. Students shall meet with the department chair (or designee) and develop a plan of study.
3. Students who will be adding/changing their major with more than 144 units will need to receive approval from the Dean of Undergraduate Studies[FP3]

Careers Opportunities

Civil Engineering

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. Civil engineers deal with the analysis, design, construction, function and safety of complex structures and systems including buildings, bridges, dams, pipelines, highways, and harbors, and is concerned with the protection of the public against natural hazards of earthquakes, floods, landslides, and fires.

What You Can Earn

- Civil Engineer I, \$58,133 (in our region)
- Civil Engineer III, \$82,271 (in our region)
- Transportation Engineer, \$50,531 (in our region)

Source: HR Reported data from salary.com as of December 2012

What You Can Do

After graduation, earn a professional license as a civil engineer or land surveyor

Geomatics Engineering

Geomatics Engineers serve society by collecting, monitoring, archiving and maintaining our national spatial infrastructure. Geomatics systems include: real property boundary determination, aerial and digital mapping, land and geographic information systems (LIS/GIS), geodesy and geodetic surveying (GPS), remote sensing, environmental and resource mapping, Geomatics applications programming, project management, route design and construction location. While learning how to use a vast array of Geomatics tools a solid theoretical grounding prepares you for a recession proof Geomatics engineering career.

What You Can Earn

- Land Surveyor, \$41,860 (in this area)
- Land Surveyor III, \$57,164 (in this area)
- Land Surveyors Manager, \$90,385 (in this area)

Source: HR Reported data from salary.com as of December 2012

Construction Management

About the Department

Wei Wu, Department Chair
Michele Randel, Architectural Studies Program Coordinator
Vivien Luo, MSCM Graduate Coordinator
Engineering East Building, Room 218
559.278.6056
engineering.fresnostate.edu/cm/

Mission of Construction Management

The mission of the Department of Construction Management is to develop professionals, build leaders, and sustain learners for the A/E/C Industry.

Department of Construction Management Objectives:

- Sustain faculty and staff success and achievement
- Sustain student success and achievement
- Provide continuing education for the A/E/C industry

Program Descriptions

- The Bachelor of Science in Architectural Studies is a new pilot program starting in the Fall of 2020. Students in this program are being prepared for a career in the architectural design field. Our program incorporates interdisciplinary courses that not only provide students with a solid understanding of architectural design concepts but with a firm understanding of design graphics, urban studies, city and regional planning and constructability to make them competitive in the architecture industry.
- 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. Information technology skills combined with a solid management and technical background are major assets of the construction management graduate.
- The Master of Science in Construction Management program provides the technical competencies, financial knowledge, and entrepreneurial skills that are essential to today's leaders in the construction industry. The program is designed for recent college graduates as well as working professionals with architecture, engineering, construction (AEC), business or related backgrounds.
- The Minor in Construction Management provides an opportunity for students from interrelated disciplines such as engineering, city and regional planning, interior design, industrial technology, and business management to gain a level of basic knowledge in the working atmosphere and environment of construction management. Students in the minor acquire an interdisciplinary core of information for participation in their chosen professional fields.

Opportunities for architectural studies and construction management graduates are excellent. Examples of positions held by architectural studies and construction management graduates are architectural designers, architectural representative, project engineer, project manager, construction manager, construction office or field engineer, estimator, scheduler, project superintendent, and construction administrator.

Interesting Classes You Might Take

- Architectural Design
- Building Information Modeling
- Construction Graphics
- Construction Scheduling
- Construction Project Controls
- Estimating and Bidding
- Sustainable Construction

What You Can Learn

- How to manage large design/build projects
- Construction materials and their application to different structural systems
- Federal and State labor-oriented regulations as applied to construction industry practices
- Conceptual planning and construction of a large-scale building project
- Sustainable practices for the design and construction of projects

Mandatory Advising

It is the policy of the department that every student meets his/her assigned advisor at least once each semester during the academic year.

Changing/Adding an Architectural Studies or Construction Management Major

Students currently enrolled at Fresno State are welcome to apply to change/add an Architectural Studies or Construction Management major offered in the Lyles College of Engineering. Admission is contingent on space availability in the major. In order to add/change your major, students must meet all of the following conditions:

1. Submit an application detailing their motivation and academic preparation for potential success in the new major.
2. Students shall possess good academic standing.
3. Students shall have completed MATH 70 or MATH 75, CM 1, and CM 2 with a grade of C or better, or be exempt from these courses because of AP credit or other transfer credit.
4. Students shall meet with the department chair or program coordinator and develop a plan of study that shows the student can complete the remainder of the degree in less than 8 semesters.

5. Students who will be adding/ changing their major with more than 144 units will need to receive approval from the Dean of Undergraduate Studies.

Career Opportunities

Construction Management (CM) is an interdisciplinary degree program that is committed to educating future professionals in the architecture/engineering/construction (AEC) industry. A construction manager is a professional that uses specialized techniques to manage the planning, design, and construction of a project, from concept through operation. These professionals manage the time, cost, safety, quality, and many other aspects of a built environment project.

Graduates from CM degree programs manage all types and sizes of projects; from a small residential home to multi-billion dollar infrastructure projects, CM's are an integral part of any project.

What You Can Earn

- Average starting salary for Construction Management graduates is \$70,000 (*Source: PayScale.com*)
- Annual Mean Wage for a Construction Manager is \$99,510 (*Source: U.S. Bureau of Labor Statistics, National Occupational Employment and Wage Estimates, United States [BLS 2017]*)

What You Can Do

- Become a Certified Construction Manager
- Become a Certified Professional Constructor
- Become a Licensed Contractor

Electrical and Computer Engineering

About the Department

Reza Raeisi, Department Chair
East Engineering Building, Room 254A
559.278.6038
engineering.fresnostate.edu/ece/

Electrical Engineering

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.

Interesting Classes You Might Take

- Digital Signal Processing
- Communication Engineering
- Wireless Communications Systems
- Electromagnetic Theory and Applications

What You Can Learn

- Principles of electrical circuits
- Structural organization, hardware architecture and design of digital computer systems
- Design of digital systems utilizing microprocessors
- Analyze and design high frequency amplifiers

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 strong emphasis on electrical engineering (primarily electronic circuits and systems)
- A broad basis in mathematics, physical science, and general engineering
- Fundamentals of computer science including programming methodology, software engineering, and operating systems
- 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.

Interesting Classes You Might Take

- Digital Logic Design
- Signals and Systems
- Electricity, Magnetism and Heat
- Principles of Electric Circuits

What You Can Learn

- Electronic prototyping and tools for computer productivity
- Computer assisted engineering
- Analysis of direct-current circuits
- Verification of basic circuit laws and principles

Mission and Program 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 Engineering Program and the Computer Engineering Program 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

1. have grown technically to the level sufficient to be productive in their respective industry workplaces.
2. be capable of addressing technical problems of increasing complexity.
3. communicate and function effectively in an interdisciplinary team environment at a level commensurate with their career development.
4. demonstrate an 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 (1) 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 registration process prior to the start of classes.

Changing/Adding an Electrical and Computer Engineering Major

Students currently enrolled at Fresno State are welcome to change/add an Electrical and Computer Engineering (ECE) major offered in the Lyles College of Engineering. In order to add/change your major, students must meet all of the following conditions: Submit an application detailing their motivation and academic/all other preparation for potential success in the new major.

1. Students shall have completed MATH 75, PHYS 4A and ECE 1 with a grade of C or better, or be exempt from these courses because of AP credit or other transfer credit.
2. Students shall meet with the department chair (or designee) and develop a plan of study that shows that the student can complete the remainder of the degree in less than 8 semesters.
3. Students who will be adding/changing their major with more than 144 units will need to receive approval from the Dean of Undergraduate Studies.

Career Opportunities

Computer Engineering

Computer Engineering encompasses digital and computer systems, embedded processors, digital signal processing, R. F. (wireless) systems, optical communications, solid-state electronics, integrated circuit design and fabrication, computer networking and software engineering. Our BS degree program provides:

- A strong emphasis in electrical engineering (primarily electronic circuits and systems);
- A broad basis in mathematics, physical science, and general engineering;
- Fundamentals of computer science including programming, methodology, software engineering; and
- Introductory and advanced concepts in the design of computers and computer systems.

What You Can Earn

- Computer Engineer Median Salary, \$117.2 K (in California)

Source: <http://www.careerexplorer.com> (2021)

What You Can Do

Pursue careers in optical communications, microelectronics, computers, radar, microwave communications, and innovative alternative energy sources.

Electrical Engineering

The Electrical Engineering course of study broadly prepares the graduate for professional practice or graduate studies while offering several areas of emphasis. Electrical engineers design and develop electronic circuits, equipment and systems in the areas of electromagnetics, communications and control, computers and digital systems, physical electronics and optics, power systems and energy conversion, and control systems.

By the appropriate choice of technical area courses, the student may emphasize the following areas:

- Electronics and communications
- Computers and digital systems
- Power and energy conversion and control systems

What You Can Earn

- Electrical Engineer Median, \$99.4K

Source: <http://www.careerexplorer.com> (2021)

Mechanical Engineering

About the Department

Dr. The Nguyen, Department Chair
Engineering East Building, Room 154B
559.278.1675
engineering.fresnostate.edu/mechanical/

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 undergraduate and graduate programs in mechanical engineering provide basics and advanced studies in design, advanced materials, alternative energy and sustainable systems, thermo-fluids, engineering mechanics, mechatronics and controls. 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.

Attainment of Engineer-in-Training (EIT) and Professional Engineering (PE) licensure are strongly recommended as first steps in professional lifelong learning.

Mission

Our mission is to provide a broad-based, practice-oriented Mechanical Engineering education that enables graduates to become technically proficient, professional leaders through engagement in the community and lifelong learning.

Program Educational Objectives

Our alumni (within three to five years after graduation) will:

1. Be engaged in a professional career or graduate studies using knowledge and skills obtained in their ME education;
2. Become leaders and effective communicators actively involved in their community for the betterment of society.

Student Outcomes-BSME

Upon the successful completion of the Bachelor of Science in Mechanical Engineering program at California State University, Fresno, students will have achieved the following:

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. an ability to communicate effectively with a range of audiences
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies

Interesting Classes You Might Take

- Fundamentals of Machine Design
- Fluid Mechanics
- Elements of Systems Design
- Energy Systems Design

What You Can Learn

- Design of conventional and alternative energy conversion systems
- How to design, build, and test prototype engineering systems

- Theory and practice in air conditioning including psychrometrics, load estimating, heating and cooling systems, and fluid design and controls

Accreditation

The Bachelor of Science in Mechanical Engineering program is accredited by the Engineering Accreditation Commission of ABET, <http://www.abet.org>. The program has been continuously accredited since 1965.

Co-op Program

The department participates in a cooperative education program (Valley Industry Partnership (VIP) for cooperative education) which allows the student to gain industrial experience and financial benefits through projects with local companies.

Career Opportunities

Mechanical Engineering is the discipline that focuses on design of many types of machinery and equipment used in transportation, manufacturing, air and space transportation; consumer products; robots; biomedical devices; and energy conversion systems. Mechanical engineers use thermodynamics, heat transfer, dynamics, thermal and fluid mechanics, design software, engineering materials, and the principles of mathematics and science to develop solutions to problems. Students can achieve a level of specialization through elective courses in machine design or thermal systems. A major goal of the program is to provide its graduates the analytical and practical skills needed to perform mechanical design in a variety of fields.

What You Can Earn

- Mechanical Engineer Average Salary, \$70,205 \$62,249 (in our region)

Source: HR Reported data from salary.com as of March December 2021

What You Can Do

Postgraduate study in:

- Aerospace
- Biomedical

General Education

Overview

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 2021-2022 academic year, Area F - Ethnic Studies was added to the General Education Breadth program per EO1100. Along with this update, American Government has been changed to a University requirement (see 'Specific Course/Skill Requirements' on the Regulation page for details). Effective fall 2021, the new General Education program will be in place. Students who fall under earlier catalog years follow the General Education requirements as their catalog year specifies.

In the 2018-2019 academic year, the university conducted a major revision of the General Education program per EO1100-revised. All students enrolling in the university as first-time freshmen beginning fall 2018 and after, and all transfer students entering fall 2018 or after who elect to adopt the 2018-2019 catalog, will be required to complete this new General Education Program. Students who fall under earlier catalog years follow the 1999-2000 General Education requirements.

All freshmen and transfer students admitted to Fresno State for the first time in Fall 2018 and later are required to submit assignments and reflections to the G.E. Program ePortfolio as part of their G.E. requirements. Additional information about the specific requirements for freshmen and transfer students (which are different) can be found in a Canvas course and within the G.E. Program ePortfolio in which students are automatically enrolled. Students admitted prior to Fall 2018, even if they are readmitted after Fall 2018, are not required to complete a G.E. Program ePortfolio.

Foundation, Breadth, and Integration

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

Lower-Division

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.*

Area F (Ethnic Studies) - *Purpose: Ethnic Studies is the interdisciplinary and comparative study of race and ethnicity with special focus on four historically defined racialized core groups: Native Americans, African Americans, Asian Americans, and Latina and Latino Americans.*

Upper-Division

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

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 and C.

Requirements

The General Education Program requires students to complete a minimum of 48 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 three upper-division INTEGRATION courses. These three 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 coursework 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:

1. **Foundation** courses must be completed with a grade of C or better to satisfy the General Education requirement.
2. A maximum of two General Education courses from one department or program may be applied to satisfy **Breadth** requirements.
3. Beginning in fall 2021, courses in GE Area D shall be completed in at least two different disciplines among the nine units required in Area D1, D2, and ID.

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, and ID) will require iterative writing assignments totaling at least 2,000 words.

Full List - General Education in A-F Format

While the revised General Education Program is presented here in terms of FOUNDATION, BREADTH, and INTEGRATION, it relates simply to the A-F format widely used throughout the state as indicated by the course prefixes in the table. The following list shows GE courses by areas.

Foundation

Foundation - Oral Communication

- COMM 3 - Fundamentals of Public Communication **Units:** 3 (Area A1)
- COMM 6H - Rhetoric for Autonomy and Collaboration in the Marketplace of Ideas **Units:** 3 (Area A1)
- COMM 7 - Persuasion **Units:** 3 (Area A1)
- COMM 8 - Group Discussion **Units:** 3 (Area A1)
- HONOR 20 - Public Communication and Civic Engagement **Units:** 3 (Area A1)

Foundation - Written Communication

- ENGL 5B - Academic Literacy II **Units:** 3 (Area A2)
- ENGL 10 - Accelerated Academic Literacy **Units:** 3 (Area A2)
- ENGL 10H - Honors Accelerated Academic Literacy **Units:** 3 (Area A2)

Foundation - Critical Thinking

- AFRS 20 - Critical Thinking About Race **Units:** 3 (Area A3)
- ANTH 30 - Critical Thinking in Anthropology **Units:** 3 (Area A3)

- ASAM 88 - Asian American Critical Thinking **Units:** 3 (Area A3)
- CLAS 30 - Critical Thinking in Chicano and Latin American Studies **Units:** 3 (Area A3)
- COMM 5 - Argumentation **Units:** 3 (Area A3)
- CSCI 1 - Critical Thinking and Computer Science **Units:** 3 (Area A3)
- CSM 10 - The Scientific Method **Units:** 3 (Area A3)
- GEOG 25 - Critical Thinking in Geography **Units:** 3 (Area A3)
- INTD 50 - Critical Thinking on Global Issues **Units:** 3 (Area A3)
- NSCI 4 - Science and Nonsense: Facts, Fads, and Critical Thinking **Units:** 3 (Area A3)
- NSCI 4H - Science and Nonsense; Critical thinking and the philosophy of science **Units:** 3 (Area A3)
- PHIL 25 - Methods of Reasoning **Units:** 3 (Area A3)
- PHIL 35H - Logic for Autonomy and Collaboration in the Marketplace of Ideas **Units:** 3 (Area A3)
- PHIL 45 - Introduction to Logic **Units:** 3 (Area A3)
- SOC 3 - Critical Thinking About Society **Units:** 3 (Area A3)
- SOC 3S - Critical Thinking About Society **Units:** 3 (Area A3)
- WGSS 12 - Critical Thinking: Gender Issues **Units:** 3 (Area A3)

Foundation - Quantitative Reasoning

- CRIM 50 - Statistical and Computer Applications in Criminal Justice **Units:** 3 (Area B4)
- DS 71 - Quantitative Analysis **Units:** 3 (Area B4)
- DS 72 - Foundations of Data Science **Units:** 3 (Area B4)
- MATH 6 - Precalculus **Units:** 4 (Area B4)
- MATH 10A - Structure and Concepts in Mathematics I **Units:** 3 (Area B4)
- MATH 10AL - Structure and Concepts in Mathematics I w/Support **Units:** 4 (Area B4)
- MATH 11 - Elementary Statistics **Units:** 3 (Area B4)
- MATH 11L - Elementary Statistics w/Support **Units:** 4 (Area B4)
- MATH 45 - What Is Mathematics? **Units:** 3 (Area B4)
- MATH 45L - What Is Mathematics w/Support **Units:** 4 (Area B4)
- MATH 70 - Calculus for Life Sciences **Units:** 4 (Area B4)
- MATH 75 - Calculus I **Units:** 4 (Area B4)
- MATH 75A - Calculus with Review IA **Units:** 4 (Area B4)
- PH 92 - Public Health Statistics **Units:** 3 (Area B4)
- PSYCH 42 - Introductory to Statistics and Data Analysis **Units:** 4 (Area B4)

Breadth

Breadth - Physical Sciences

- CHEM 1A - General Chemistry 1A **Units:** 3 (Area B1)
- CHEM 1AL - General Chemistry Laboratory 1A **Units:** 2 (Area B1)
- CHEM 3A - Introductory General Chemistry **Units:** 4 (Area B1)
- CHEM 10 - Chemistry and Society **Units:** 4 (Area B1)
- CHEM 10H - Chemistry & Society **Units:** 4 (Area B1)
- EES 1 - Natural Disasters and Earth Resources **Units:** 4 (Area B1)
- EES 1V - Natural Disasters and Earth Resources - Virtual Labs **Units:** 4 (Area B1)
- EES 4 - Environmental Science **Units:** 4 (Area B1)
- EES 5 - Climate Change: Understanding Global Warming **Units:** 4 (Area B1)
- EES 8H - Natural Disasters and Earth Resources **Units:** 4 (Area B1)
- GEOG 5 - Introduction to Weather and Climate **Units:** 3 (Area B1)
- GEOG 7 - Physical Geography: The Earth's Surface **Units:** 3 (Area B1)
- PHYS 2A - General Physics **Units:** 4 (Area B1)
- PHYS 4A - Mechanics and Wave Motion **Units:** 3 (Area B1)
- PHYS 4AL - Laboratory in Mechanics and Wave Motion **Units:** 1 (Area B1)
- PHYS 10 - Conceptual Physics **Units:** 4 (Area B1)
- PSCI 21 - Elementary Astronomy **Units:** 4 (Area B1)

Breadth - Physical Sciences Liberal Studies Only

- NSCI 1A - Integrated Science: Physics and Chemistry **Units:** 4 (Area B1LS)

Breadth - Life Sciences

- BIOL 1A - Introductory Biology **Units: 4** (Area B2)
- BIOL 10 - Life Science **Units: 3** (Area B2)
- BIOL 10H - Life Science **Units: 3** (Area B2)

- BIOL 11 - Plant Biology **Units: 3** (Area B2)
- BIOL 12 - Animal Biology **Units: 3** (Area B2)
- HONOR 21 - Science Communication **Units: 3** (Area B2)

Breadth - Arts

- ARMS 20 - The Arts of Armenia **Units: 3** (Area C1)
- ART 1 - Art Forms **Units: 3** (Area C1)
- ART 20 - Drawing **Units: 3** (Area C1)
- ART 40 - Painting **Units: 3** (Area C1)
- ART 50 - Beginning Sculpture **Units: 3** (Area C1)
- ARTH 10 - The Ancient Medieval Worlds **Units: 3** (Area C1)
- ARTH 11 - The Early Modern World **Units: 3** (Area C1)
- ARTH 12 - Asian Art **Units: 3** (Area C1)
- CLAS 9 - Chicano Artistic Expression **Units: 3** (Area C1)
- DRAMA 22 - Oral Interpretation of Literature **Units: 3** (Area C1)
- DRAMA 62 - Theatre Today **Units: 3** (Area C1)
- DRAMA 75H - Theatre in Contemporary American Culture **Units: 3** (Area C1)

- ENGL 41 - Poetry Writing **Units: 4** (Area C1)
- ENGL 42H - Creative Writing **Units: 4** (Area C1)
- ENGL 43 - Fiction Writing **Units: 4** (Area C1)
- ENGL 44 - Creative Nonfiction Writing **Units: 4** (Area C1)
- HONOR 10 - Beginning Workshop in the Writing of Poetry - Global Culture, History and Values **Units: 3** (Area C1)
- MCJ 9 - Film Appreciation **Units: 3** (Area C1)
- MUSIC 9 - Introduction to Music **Units: 3** (Area C1)
- MUSIC 9A - Introduction to Music **Units: 3** (Area C1)
- MUSIC 60H - Music in Social Context **Units: 3** (Area C1)
- MUSIC 74 - Listener's Guide to Music **Units: 3** (Area C1)
- MUSIC 75 - History of Rock and Roll **Units: 3** (Area C1)

Breadth - Humanities

- ARAB 1A - Elementary Arabic A **Units: 4** (Area C2)
- ARAB 1B - Elementary Arabic B **Units: 4** (Area C2)
- ARM 1A - Elementary Armenian **Units: 4** (Area C2)
- ARM 1B - Elementary Armenian **Units: 4** (Area C2)
- ARM 2A - Intermediate Armenian **Units: 3** (Area C2)
- CHIN 1A - Elementary Chinese 1A **Units: 4** (Area C2)
- CHIN 1B - Elementary Chinese **Units: 4** (Area C2)
- CSDS 90 - Deaf American Literature **Units: 3** (Area C2)
- CSDS 92 - American Sign Language II **Units: 3** (Area C2)
- ENGL 20 - Introduction to Literature **Units: 4** (Area C2)
- ENGL 30 - Readings in World Literature **Units: 4** (Area C2)
- FREN 1B - Elementary French **Units: 3** (Area C2)
- FREN 2A - French for Communication **Units: 3** (Area C2)
- FREN 2B - French for Communication **Units: 3** (Area C2)
- GERM 1B - Elementary German **Units: 4** (Area C2)
- GERM 2A - Intermediate German **Units: 3** (Area C2)
- GERM 2B - Intermediate German **Units: 3** (Area C2)
- GRK 1A - Elementary Greek **Units: 3** (Area C2)
- GRK 1B - Elementary Greek **Units: 3** (Area C2)
- HEBR 1A - Basic Hebrew **Units: 4** (Area C2)
- HMONG 1A - Basic Hmong **Units: 4** (Area C2)
- HMONG 1B - Basic Hmong **Units: 4** (Area C2)
- HONOR 11 - Introduction to the Humanities - Global Culture, History and Values **Units: 3** (Area C2)
- HUM 10 - Humanities from Antiquity to the Renaissance **Units: 3** (Area C2)
- HUM 10H - Intro Humanities of the Western World **Units: 3** (Area C2)

- HUM 11 - Humanities from the Baroque to the Modern **Units: 3** (Area C2)
- HUM 15 - Classical Myth and World Humanities **Units: 3** (Area C2)
- HUM 20 - Introduction to Hispanic Literature **Units: 3** (Area C2)
- ITAL 1A - Elementary Italian **Units: 4** (Area C2)
- ITAL 1B - Elementary Italian **Units: 4** (Area C2)
- ITAL 2A - Intermediate Italian **Units: 3** (Area C2)
- ITAL 2B - Intermediate Italian **Units: 3** (Area C2)
- JAPN 1A - Elementary Japanese **Units: 4** (Area C2)
- JAPN 1B - Elementary Japanese **Units: 4** (Area C2)
- LATIN 1A - Elementary Latin **Units: 3** (Area C2)
- LATIN 1AH - Honors Elementary Latin **Units: 3** (Area C2)
- LATIN 1B - Elementary Latin **Units: 3** (Area C2)
- LING 10 - Introduction to Language **Units: 3** (Area C2)
- PERS 1A - Elementary Modern Persian **Units: 3** (Area C2)
- PERS 1B - Elementary Modern Persian B **Units: 3** (Area C2)
- PHIL 1 - Introduction to Philosophy **Units: 3** (Area C2)
- PHIL 2 - Exploring Religious Meaning **Units: 3** (Area C2)
- PHIL 10 - Self, Religion, and Society **Units: 3** (Area C2)
- PHIL 20 - Moral Questions **Units: 3** (Area C2)
- PORT 1A - Elementary Portuguese **Units: 4** (Area C2)
- PORT 1B - Elementary Portuguese **Units: 4** (Area C2)
- SPAN 1B - Elementary Spanish **Units: 4** (Area C2)
- SPAN 2A - Spanish for Communication **Units: 3** (Area C2)
- SPAN 2B - Spanish for Communication **Units: 3** (Area C2)

- SPAN 3 - Reading and Writing **Units: 3** (Area C2)
- SPAN 4A - Spanish for the Bilingual Student **Units: 3** (Area C2)

- SPAN 4B - Spanish for the Bilingual Student **Units: 3** (Area C2)

American History

- HIST 11 - American History to 1877 **Units: 3** (Area D1)
- HIST 12 - American History from 1877 **Units: 3** (Area D1)
- HIST 15H - Trials of Century **Units: 3** (Area D1)

- HONOR 12 - U.S. in the Twentieth Century World - Global Culture, History and Values **Units: 3** (Area D1)

Social Science

- AGBS 1 - Introductory Agricultural Economics **Units: 3** (Area D2)
- AIS 50 - Contemporary Life of the American Indian **Units: 3** (Area D2)
- ANTH 2 - Introduction to Cultural Anthropology **Units: 3** (Area D2)
- ANTH 3 - Introduction to Prehistory and Physical Anthropology **Units: 3** (Area D2)
- ARMS 10 - Introduction to Armenian Studies **Units: 3** (Area D2)
- ASAM 7 - Biracial, Multiracial and Adopted Asian Americans **Units: 3** (Area D2)
- CFS 31 - Introduction to Family Science **Units: 3** (Area D2)
- CRIM 10 - Crime, Criminology, and Justice **Units: 3** (Area D2)
- CRP 80 - Introduction to Cities and Urban Planning **Units: 3** (Area D2)
- CSDS 98 - Introduction to Hard of Hearing and Deaf People **Units: 3** (Area D2)
- ECON 25 - Introduction to Economics **Units: 3** (Area D2)
- ECON 40 - Principles of Microeconomics **Units: 3** (Area D2)
- ECON 50 - Principles of Macroeconomics **Units: 3** (Area D2)
- GEOG 2 - Introduction to Cultural Geography **Units: 3** (Area D2)

- GEOG 4 - World Geography **Units: 3** (Area D2)
- HIST 20 - World History I **Units: 3** (Area D2)
- HIST 21 - World History II **Units: 3** (Area D2)
- HONOR 13 - Human Fragility and Cultural Transcendence-Global Culture, History and Values **Units: 3** (Area D2)
- IT 20 - Technology and Society **Units: 3** (Area D2)
- JS 10 - Jewish Civilization **Units: 3** (Area D2)
- MCJ 1 - Mass Communication and Society **Units: 3** (Area D2)
- MES 10 - Introduction to Modern Middle East **Units: 3** (Area D2)
- PLSI 1 - Modern Politics **Units: 3** (Area D2)
- PLSI 71H - Introduction to Environmental Politics **Units: 3** (Area D2)
- PSYCH 10 - Introduction to Psychology **Units: 3** (Area D2)
- PSYCH 62H - Introduction to Social and Cultural Psychology **Units: 3** (Area D2)
- SOC 1 - Principles of Sociology **Units: 3** (Area D2)
- SOC 1S - Principles of Sociology **Units: 3** (Area D2)
- WGSS 10 - Introduction to Women's Studies **Units: 3** (Area D2)
- WGSS 11 - Introduction to LGBTQ+ Studies **Units: 3** (Area D2)

Lifelong Understanding & Self Development

- ART 13 - Design **Units: 3** (Area E)
- ASAM 8 - Asian American Community Health **Units: 3** (Area E)
- ASCI 67 - Animals and Society **Units: 3** (Area E)
- CFS 38 - Life Span Development **Units: 3** (Area E)
- CFS 38H - Honors Lifespan Development **Units: 3** (Area E)
- CFS 39 - Introduction to Child Development **Units: 3** (Area E)
- CSM 15 - Evidence Based Decision Making **Units: 3** (Area E)
- DANCE 16 - Introduction to Dance **Units: 3** (Area E)
- DANCE 70 - Balance BodyMind **Units: 3** (Area E)

- DRAMA 32 - Introduction to Acting **Units: 3** (Area E)
- FIN 30 - Personal Financial Planning **Units: 3** (Area E)
- GERON 10S - Journey of Adulthood: Planning a Meaningful Life **Units: 3** (Area E)
- GERON 18 - Women and Aging **Units: 3** (Area E)
- GERON 111 - Heritage and Aging **Units: 3** (Area E)
- KINES 32 - Lifetime Fitness and Wellness **Units: 2** (Area E)
- LING 30 - Language through the Lifespan **Units: 3** (Area E)
- NUTR 53 - Nutrition and Health: Realities and Controversies **Units: 3** (Area E)
- NUTR 53HS - Nutrition and Health **Units: 3** (Area E)

- PAX 110 - Peace Building **Units: 3** (Area E)
- PH 90 - Contemporary Health Issues **Units: 3** (Area E)
- PH 91 - Human Sexuality **Units: 3** (Area E)
- PH 110 - Drugs, Society, and Health **Units: 3** (Area E)
- PHIL 32H - Life, Death, and Afterlife **Units: 3** (Area E)
- PSYCH 61 - Personal Adjustment **Units: 3** (Area E)

Ethnic Studies

- AFRS 10 - Introduction to Africana Studies: Beginnings, Political Struggle, and Academic Warfare **Units: 3** (Area F)
- AFRS 15 - Slavery and the American Experience **Units: 3** (Area F)
- AFRS 27 - Black Popular Culture **Units: 3** (Area F)
- AFRS 40 - Law, Policing, and Black Communities **Units: 3** (Area F)
- AFRS 68 - Black Protest from Emmett Till to Breonna Taylor **Units: 3** (Area F)
- AIS 5 - American Indian History **Units: 3** (Area F)
- AIS 10 - Introduction to American Indian Studies **Units: 3** (Area F)
- AIS 103 - California American Indians **Units: 3** (Area F)
- ANTH 120 - Race and Ethnic Relations in the U.S. **Units: 3** (Area F)
- ANTH 175 - Anime, Graphic Novel, K-Pop and Asian Cultural Studies **Units: 3** (Area F)
- ASAM 10 - Asian American Newspapers and Mass Media **Units: 3** (Area F)
- ASAM 15 - Introduction to Asian Americans **Units: 3** (Area F)
- ASAM 20 - Asian Americans in Media and Popular Culture **Units: 3** (Area F)
- ASAM 50 - Contemporary Asian American Issues **Units: 3** (Area F)
- ASAM 108 - Jain, Hindu, and Asian American Religions **Units: 3** (Area F)
- ASAM 120 - Race and Ethnic Relations in the U.S. **Units: 3** (Area F)
- ASAM 143 - Asian American Literature **Units: 4** (Area F)
- ASAM 175 - Anime, Graphic Novel, K-Pop and Asian Cultural Studies **Units: 3** (Area F)
- ASAM 185 - Asian American Politics, Education and Theory **Units: 3** (Area F)
- CLAS 3 - Introduction to Chicano/Latino Studies **Units: 3** (Area F)
- CLAS 5 - Chicanx Culture and History **Units: 3** (Area F)
- CLAS 120 - Latina/o Cultural Changes **Units: 3** (Area F)
- CLAS 128 - Latinx Politics **Units: 3** (Area F)
- CLAS 163 - Latinx in Education **Units: 3** (Area F)
- MCJ 6 - Asian American Newspapers and Mass Media **Units: 3** (Area F)
- PHIL 108 - Jain, Hindu, and Asian American Religions **Units: 3** (Area F)

Integration

Physical Universe & Its Life Forms

- ANTH 161 - Bio/Behavioral Evolution of the Human Species **Units: 3** (Area IB)
- CE 121 - Mechanics of Materials **Units: 3** (Area IB)
- CHEM 170 - Chemistry in the Marketplace **Units: 3** (Area IB)
- CSCI 100 - Introduction to Computational Science **Units: 3** (Area IB)
- EES 102S - Sedimentology **Units: 4** (Area IB)
- EES 112 - Planet Earth through Time **Units: 3** (Area IB)
- EES 167 - Oceans and Atmosphere and Climate **Units: 3** (Area IB)
- EES 168 - California's Earth System **Units: 3** (Area IB)
- GEOG 115 - Violent Weather/Climatic Hazards **Units: 3** (Area IB)
- GEOG 128 - Environmental Pollution **Units: 3** (Area IB)
- GEOG 129 - Environmental Impact Assessment **Units: 3** (Area IB)
- MATH 123 - Mathematical Modeling **Units: 3** (Area IB)
- NSCI 115 - Environmental Earth and Life Science **Units: 3** (Area IB)
- NSCI 120 - Biotechnology and Its Impact on Society **Units: 3** (Area IB)
- NSCI 121 - Blood: Science, Art, and Folklore **Units: 3** (Area IB)
- NSCI 125 - Revenge of the Killer Microbes **Units: 3** (Area IB)
- PH 161 - Environment and Human Health **Units: 3** (Area IB)
- PHYS 100 - Concepts of Quantum Physics **Units: 3** (Area IB)
- PLANT 105 - Food, Society, and Environment **Units: 3** (Area IB)
- PSCI 131 - Concepts of Classical Physics from Babylon to Maxwell **Units: 3** (Area IB)

- PSCI 168 - Energy and the Environment **Units: 3** (Area IB)

Arts & Humanities

- AFRS 129 - African American Literary Classics **Units: 3** (Area IC)
- AH 105 - Arts and Humanities Study Abroad Experience **Units: 3** (Area IC)
- ARM 148 - Masterpieces of Armenian Culture **Units: 3** (Area IC)
- ART 102 - Ideas of Visual Culture: Art, Media, and the Computer **Units: 3** (Area IC)
- ARTH 140 - Arts of Southeast Asia **Units: 3** (Area IC)
- ASAM 148 - Asian and Asian American Film and Video **Units: 3** (Area IC)
- CLAS 130 - Latinx Culture and Media Studies **Units: 3** (Area IC)
- CM 145 - Historic Preservation and Urban Renewal **Units: 3** (Area IC)
- DANCE 171 - Philosophical Bases and Trends in Dance **Units: 3** (Area IC)
- DRAMA 163 - Dramatic Literature **Units: 3** (Area IC)
- DRAMA 188TZ - British Theatre **Units: 3** (Area IC)
- ENGL 101 - Masterpieces of World Literature **Units: 4** (Area IC)
- ENGL 102 - Masterpieces of English Literature **Units: 4** (Area IC)
- ENGL 102WZ - Masterpieces of English Literature **Units: 4** (Area IC)
- ENGL 103 - Masterpieces of American Literature **Units: 4** (Area IC)
- ENGL 112 - World Literature: Ancient **Units: 4** (Area IC)
- ENGL 113 - World Literature: Medieval and Renaissance **Units: 4** (Area IC)
- ENGL 114 - World Literature: Modern **Units: 4** (Area IC)
- ENGL 174 - Popular Fiction **Units: 3** (Area IC)
- ENGL 174Z - Popular Fiction - London in Literature **Units: 3** (Area IC)
- FREN 109 - French Literature, Culture, and Society from the Middle Ages to Today **Units: 3** (Area IC)
- FREN 124 - The French Esthetic **Units: 3** (Area IC)
- FREN 125 - French and Francophone Film **Units: 3** (Area IC)
- FREN 149 - Voices of Africa **Units: 3** (Area IC)
- HUM 104 - Humanities in the Middle Ages and Renaissance **Units: 3** (Area IC)
- HUM 108 - Humanities in Classical Athens **Units: 3** (Area IC)
- ITAL 130 - Leadership in Italy: from Machiavelli to Mussolini **Units: 3** (Area IC)

- SOC 158 - Environmental Sociology **Units: 3** (Area IB)

- HUM 110 - Humanities in Republican and Imperial Rome **Units: 3** (Area IC)
- HUM 118 - Folklore in Contemporary Life **Units: 3** (Area IC)
- HUM 120 - Genocide, Memory and Media **Units: 3** (Area IC)
- HUM 129 - Mexican Culture **Units: 3** (Area IC)
- IAS 108 - Interdisciplinary Arts Studies **Units: 3** (Area IC)
- ITAL 110 - Italian Food Culture **Units: 3** (Area IC)
- LING 115 - Language, Culture, and Society **Units: 3** (Area IC)
- LING 130 - Language and Gender **Units: 3** (Area IC)
- LING 138 - History of the English Language **Units: 3** (Area IC)
- MCJ 183 - Documentary Media and Society **Units: 3** (Area IC)
- MUSIC 170A - Music of the Americas: Latin America **Units: 3** (Area IC)
- MUSIC 171 - Introduction to the World's Music **Units: 3** (Area IC)
- MUSIC 171Z - Introduction to the World's Music **Units: 3** (Area IC)
- MUSIC 187 - Pop Music: Jazz and Rock **Units: 3** (Area IC)
- MUSIC 187Z - Pop Music: Jazz and Rock **Units: 3** (Area IC)
- PHIL 120 - Contemporary Conflicts of Morals **Units: 3** (Area IC)
- PHIL 150 - Foundations of Knowledge **Units: 3** (Area IC)
- PHIL 151 - Cognitive Science: Mind **Units: 3** (Area IC)
- PORT 101 - Portuguese and Brazilian Literatures **Units: 3** (Area IC)
- PORT 102 - Cultures of the Azorean Isles **Units: 3** (Area IC)
- PORT 103 - European and Latin American Film: Portugal and Brazil **Units: 3** (Area IC)
- SPAN 125 - Hispanic Cultural Productions (taught in Spanish) **Units: 3** (Area IC)
- SPAN 129 - Mexican Culture (taught in Spanish) **Units: 3** (Area IC)
- WGSS 110 - Representations of Women, Gender, and Sexuality **Units: 3** (Area IC)
- WGSS 111 - LGBTQ+ Representation in Film & Video **Units: 3** (Area IC)

Social, Political & Economic Institutions

- AFRS 144 - Race Relations **Units: 3** (Area ID)
- AGBS 155 - Environmental and Natural Resource Policy **Units: 3** (Area ID)

- ANTH 116W - Anthropology of Religion **Units: 3** (Area ID)
- ANTH 145 - Cultural Resources Management **Units: 3** (Area ID)
- ARTH 143 - Kingdoms of Monsoon Asia **Units: 3** (Area ID)
- ASAM 111 - Asian Pacific Desi American History **Units: 3** (Area ID)
- ASAM 121 - Asian American Marriage and Family **Units: 3** (Area ID)
- CE 161 - Construction Engineering I **Units: 3** (Area ID)
- CI 152 - Adolescent Learning and Development **Units: 3** (Area ID)
- CLAS 114 - Mexico and the Southwest 1810-1910 **Units: 3** (Area ID)
- CLAS 115 - Mexico-U.S. Relations Since-1910 **Units: 3** (Area ID)
- CM 124 - Construction Labor Relations **Units: 3** (Area ID)
- CRIM 101 - Crime and Violence in America **Units: 3** (Area ID)
- CRIM 120 - Juvenile Delinquency **Units: 3** (Area ID)
- CRIM 120S - Juvenile Delinquency **Units: 3** (Area ID)
- CRP 125 - Environmental Planning **Units: 3** (Area ID)
- ECE 118 - Microprocessor Architecture and Programming **Units: 3** (Area ID)
- ECON 146 - Economics of Crime **Units: 3** (Area ID)
- ECON 167 - Contemporary Socioeconomic Challenges **Units: 3** (Area ID)
- ECON 176 - Economics Themes in Film **Units: 3** (Area ID)
- ECON 183 - Political Economy of the Middle East **Units: 3** (Area ID)
- EES 115S - Climate Change Solutions **Units: 3** (Area ID)
- FBS 153 - Psychology of Criminality **Units: 3** (Area ID)
- GEOG 133 - Environmental Policy Management **Units: 3** (Area ID)
- GEOG 173 - The American West **Units: 3** (Area ID)
- GERON 100 - Images of Aging in Contemporary Society **Units: 3** (Area ID)
- HIST 101 - Women in History **Units: 3** (Area ID)
- HIST 154 - Jewish American Popular Culture **Units: 3** (Area ID)
- HONOR 102 - Global Social Issues: Exploring Challenges and Solutions **Units: 4** (Area ID)
- JS 154 - Jewish American Popular Culture **Units: 3** (Area ID)
- KINES 111 - The Olympic Games **Units: 3** (Area ID)
- MCJ 175 - Stereotypes and Representation in Media **Units: 3** (Area ID)
- MCJ 178 - New Media Technologies **Units: 3** (Area ID)
- MCJ 180 - Water and Strategic Media **Units: 3** (Area ID)
- PAX 100 - Peace and Conflict Studies **Units: 3** (Area ID)
- SOC 131 - Sociology of Sex and Gender **Units: 3** (Area ID)
- SOC 143 - Deviance and Control **Units: 3** (Area ID)
- SOC 163 - Urban Sociology **Units: 3** (Area ID)
- SSCI 110 - California Studies **Units: 3** (Area ID)
- WGSS 101 - Women in History **Units: 3** (Area ID)
- WGSS 124 - Gender and Sexuality in Education **Units: 3** (Area ID)
- WGSS 149 - Gender Law & Social Policy **Units: 3** (Area ID)

Multicultural/International Requirement*

Multicultural/International education is a university graduation requirement. All M/I courses are at the upper-division level and can be double counted for major requirements if a course is both M/I and major. M/I courses can be taken no sooner than the term in which 60 units of coursework are completed, including completion of GE Foundation and Area D courses.

* Formerly part of G.E. in catalog year 2017-18 and earlier.

List of courses

- AFRS 150 - South Africa **Units: 3**
- AFRS 164 - African Cultural Perspectives **Units: 3**
- ANTH 105W - Applied Anthropology **Units: 3**
- ANTH 123 - Peoples and Cultures of Southeast Asia **Units: 3**
- ANTH 125 - Tradition and Change in China and Japan **Units: 3**
- ARTH 141 - Arts of East Asia **Units: 3**
- ARTH 142 - Arts of South Asia **Units: 3**
- ASAM 110 - Asian American Communities **Units: 3**
- ASAM 110S - Asian American Communities Service-Learning **Units: 3**
- BA 104 - Global Business **Units: 3**
- CFS 134 - Culture and Diversity **Units: 3**
- CLAS 160 - Sex, Race, and Class in American Society **Units: 3**
- CLAS 170 - Latin American Studies **Units: 3**
- COMM 164 - Intercultural Communication **Units: 3**
- CSDS 139 - Deaf Culture **Units: 3**
- ECON 181 - Political Economy of Latin America **Units: 3**
- GEOG 167 - People and Places-A Global Perspective **Units: 3**
- GEOG 174 - European Regions **Units: 3**
- GERON 161 - Multiculture/Aging **Units: 3**
- HIST 186 - American Immigration and Ethnic History **Units: 3**
- HUM 105 - Cultures of the Portuguese-Speaking World **Units: 3**
- HUM 140 - Tradition and Change in China and Japan **Units: 3**
- INTD 177 - Global Challenges **Units: 3**
- ITAL 100 - Italian Literature and Cinema in Translation **Units: 3**
- LING 147 - Bilingualism **Units: 3**
- MCJ 176 - International Mass Communication **Units: 3**
- MCJ 179 - Cineculture **Units: 3**
- MKTG 100S - Marketing Concepts **Units: 4**
- NURS 141 - Concepts of Community Health Nursing **Units: 3**
- NURS 141LS - Practicum: Concepts of Community Health Nursing **Units: 2**
- MUSIC 171A - Global Music Perspectives **Units: 3**
- PH 104 - Global and Cultural Issues in Health **Units: 3**
- PH 128S - Holistic Health and Alternative Medicine **Units: 3**
- PHIL 131 - Comparative Religion **Units: 3**
- PHIL 132 - Religion and the Margin **Units: 3**
- PHIL 132Z - Religion and the Margin-London Semester **Units: 3**
- PLSI 120 - International Politics **Units: 3**
- RA 130 - International Tourism: Multicultural Issues and Impacts **Units: 3**
- SOC 111 - Sociology of Race and Ethnicity **Units: 3**
- SOC 142 - Sociology of Popular Culture **Units: 3**
- SSCI 180 - Diversity in the U.S. **Units: 3**
- SWRK 136 - Cultural Diversity and Oppression **Units: 3**
- WGSS 120 - Women of Color in the United States **Units: 3**
- WGSS 122 - Queer Indigenous and Queer of Color in the United States **Units: 3**
- WGSS 135 - Women In Cross-Cultural Perspective **Units: 3**

Service-Learning

Jan and Bud Richter Center for Community Engagement and Service-Learning

University Student Union 312
559.278.7079
Chris Fiorentino, Director
<https://academics.fresnostate.edu/cesl/>

California State University, Fresno has a rich history of engaging students in service to the community. As part of an overall educational experience, community engagement can have a profound impact on a student's personal, professional, and academic development. Each year since 2009-10, Fresno State students have provided over 1 million hours of service to the community through a variety of university coordinated community engagement and service-learning initiatives.

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 university that is fully engaged with our community. 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 and the interests of our region. Examples of community engagement activities include, but are not limited to, 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 region.

Service-Learning

Service-learning is proven to enhance students' academic success, career development, and personal skills. This is accomplished through 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 4,000 students enrolled in nearly 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.fresnostate.edu/cesl.

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 - Com Serv-Learn
- COMS 1011 - Community Service Internship

Note: Students in COMS courses are required to complete a minimum number of service hours with a nonprofit agency of their choice. The required number of service hours is determined by the course and number of COMS units. For more information, contact the Richter Center staff or visit the Web page at <https://academics.fresnostate.edu/cesl/>

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.

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 and ENGL 5B or ENGL 10) or its equivalent with a C or better, students may meet this requirement in the following way:

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 **Units: 3**
- AGBS 170WS - Advanced Agribusiness Applications **Units: 3 ***
- AIS 105W - American Indian Oral Traditions and Literatures **Units: 3**
- ANTH 105W - Applied Anthropology **Units: 3**
- ANTH 116W - Anthropology of Religion **Units: 3**
- ANTH 126W - Asian Eats: Asian American Foodways **Units: 3**
- ASAM 151W - Asian Eats: Asian American Foodways **Units: 3**
- ASAM 161W - Asian Americans in the Caring Fields **Units: 3**
- ASP 105AW - National Security/Commissioning Preparation **Units: 3 ***
- ASP 105BW - National Security/Commissioning Preparation **Units: 3 ***
- BA 105W - Business Communication **Units: 3**
- BIOL 118W - Science Communication Beyond the Discipline **Units: 3**
- CFS 130W - Professional Writing **Units: 3 ***
- CHEM 161W - Scientific Writing Workshop **Units: 3**
- CLAS 102W - Contemporary Chicana/Latina Writing and Culture **Units: 3**
- ECON 102W - Explorations in Economic Literature **Units: 3 ***
- EES 104W - Scientific Writing and Research Techniques **Units: 3 ***
- EES 135W - Dinosaurs **Units: 3**
- ENGL 102WZ - Masterpieces of English Literature **Units: 4**
- ENGL 106W - Writing in English Studies **Units: 4**
- ENGL 115W - Literature of the New Testament **Units: 3**
- ENGL 117W - Writing from Children's Lit **Units: 3**
- ENGL 160W - Writing Workshop **Units: 4**
- ENGL 160WZ - Writing Workshop **Units: 4**
- ENGL 170W - Writing and Teaching Writing **Units: 4**
- ENGR 105WE - Engineering and Entrepreneurship **Units: 3 ***
- HIST 100W - Introduction to Historical Research and Writing **Units: 3 ***
- HHS 116W - Interprofessional Communication in Health and Human Services **Units: 3**
- IT 198W - Technical Writing **Units: 3**
- JS 100W - Writing and the Jewish Experience **Units: 3**
- LEE 180W - Literacy for Social Justice and Equity **Units: 3**
- LING 110W - Advanced Composition for Foreign Students **Units: 3**
- LING 111W - Academic Writing Workshop **Units: 3**
- LS 110WS - Writing in the K-8 Classroom **Units: 3**
- MCJ 102W - Reporting **Units: 3 ***
- MCJ 114W - Screenwriting **Units: 3**
- MCJ 155SW - Nonprofit Public Relations and Development Writing **Units: 3**
- MCJ 158W - Advanced Writing to Influence **Units: 3 ***
- PHIL 125W - Issues in Political Philosophy **Units: 3**
- PHIL 133W - Literature of the New Testament **Units: 3**
- PLANT 110W - Dimensions in Agriculture **Units: 3**
- PLSI 100W - Writing about Politics: Local, National, and Global Issues **Units: 3**
- SOC 130W - Contemporary Social Issues **Units: 4 ***
- SOC 130WS - Contemporary Social Issues **Units: 4 ***

*Enrollment may be restricted or have additional prerequisites. See course description in the Catalog Courses Page or ps.fresnostate.edu.

Degrees and Programs

Bachelor

Africana Studies, B.A.

Degree Requirements

Major Requirements (33 units)

Lower-Division Requirements (12 units)

- AFRS 10 - Introduction to Africana Studies: Beginnings, Political Struggle, and Academic Warfare **Units: 3**
- AFRS 15 - Slavery and the American Experience **Units: 3**
- AFRS 27 - Black Popular Culture **Units: 3**
OR
- AFRS 36 - Contemporary African Societies **Units: 3**
- SOC 125 - Statistics for the Social Sciences **Units: 4**
OR
- PLSI 90 - Methods of Analysis of Quantitative Political Data **Units: 3**

Upper-Division Requirements (15 units)

- AFRS 137 - African American Women **Units: 3**
- AFRS 104W - Writing About American Inequality **Units: 3**

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 advisor for assistance in planning the major.

Agricultural Business, B.S.

Degree Requirements

Major (60-61 units)

Agricultural Foundation (9 units)

- AFRS 144 - Race Relations **Units: 3**
- AFRS 150 - South Africa **Units: 3**
OR
- AFRS 164 - African Cultural Perspectives **Units: 3**
- AFRS 189 - Fieldwork in Community Relations **Units: 3**

Approved Africana Electives (6 units)

Consult your academic advisor for approval.

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements .

Total Units: 120*

* General Education, MI, and Upper-division Writing courses can be double counted with major requirements. See advisor for details.

Select 9 units of courses from any of the following areas:

AGBS, AGED, ASCI, AGRI, CULG, ENOL, FSC, FSM, IT, MEAG, NUTR, PLANT, VIT.

Business Management Base (15-16 units)

- AGBS 2 - Agricultural Sector Analysis **Units: 3**
OR
- ECON 50 - Principles of Macroeconomics **Units: 3**
- AGBS 28 - Introductory Agricultural Law **Units: 3**
OR
- BA 18 - Business and the Legal Environment **Units: 4**
- AGBS 31 - Farm Accounting **Units: 3**
OR
- ACCT 4A - Financial Accounting Principles and Systems **Units: 3**
- AGBS 32 - Agribusiness Managerial Accounting **Units: 3**

OR

- ACCT 4B - Managerial Accounting Principles and Systems **Units: 3**
- AGBS 76 - Agribusiness Microcomputer Applications **Units: 3**

Agricultural Business Core (27 units)

- AGBS 100 - Intermediate Agricultural Economics **Units: 3**
- AGBS 105 - Agricultural Business Quantitative Methods **Units: 3**
- AGBS 109 - Management of Agri-food Supply Chains **Units: 3**
- AGBS 120 - Agribusiness Management **Units: 3**
- AGBS 130 - Agricultural Finance **Units: 3**
- AGBS 140 - International Agricultural Economics **Units: 3**
- AGBS 150 - Agricultural and Food Policy **Units: 3**
- AGBS 160 - Agricultural Marketing Analysis **Units: 3**
- AGBS 170WS - Advanced Agribusiness Applications **Units: 3**

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 advisor. (See major program of study advising check sheet for elective course listings in various subfields.

Additional Requirements (6 - 11 unit)

Agricultural Business majors must take the following courses, which also satisfy General Education requirements in Foundation (Area B4) and Breadth (Area D2)

- MATH 11 - Elementary Statistics **Units: 3**
 - MATH 11L - Elementary Statistics w/Support **Units: 4**
 - MATH 75 - Calculus I **Units: 4**
- OR**
- MATH 75A - Calculus with Review IA **Units: 4** and
 - MATH 75B - Calculus with Review IB **Units: 4**
- OR**
- AGBS 1 - Introductory Agricultural Economics **Units: 3**
- OR**
- ECON 40 - Principles of Microeconomics **Units: 3**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements .

Total Units (120)*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. See advisor for details.

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 advisor. 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 advisor 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. 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 advisor.)
7. Unit limits for courses included in the major exist for AGBS 80/AGBS 180 (4 units combined maximum allowed) and AGBS 194I (3 units maximum allowed).

Agricultural Education - Agricultural Communications Option, B.S.

Degree Requirements

Major Requirements (60 units)

Agricultural Communications Core (45 units)

Agricultural Economics (3 units)

Select 3 units from:

- AGBS 28 - Introductory Agricultural Law **Units: 3**
- AGBS 31 - Farm Accounting **Units: 3**
- AGBS 117 - Agricultural Labor-Management Relations **Units: 3**
- AGBS 120 - Agribusiness Management **Units: 3**
- AGBS 150 - Agricultural and Food Policy **Units: 3**

Agricultural Education (6 units)

- AGED 66 - Agricultural Communications **Units: 3**
- AGED 166 - Agricultural Publication Production **Units: 3**

Animal Science (9 units)

- ASCI 1 - Introduction to Animal Science **Units: 3**

Select 6 Units from:

- ASCI 11 - Meat Animal Selection and Evaluation **Units: 3**
- ASCI 21 - Beef Cattle Production **Units: 3**
- ASCI 31 - Swine Production **Units: 3**
- ASCI 35 - Feeds and Feeding **Units: 3**
- ASCI 41 - Sheep Production **Units: 3**
- ASCI 51 - Horse Production **Units: 3**
- ASCI 61 - Dairy Cattle Production **Units: 3**
- ASCI 81 - Introduction to Livestock, Meat and Dairy Evaluation **Units: 3**
- ASCI 91 - Poultry Production **Units: 3**

Food Science and Nutrition (3 units)

Select 3 units from:

- ASCI 71 - Meat Science **Units: 3**
- ENOL 15 - Introduction to Enology **Units: 3**

Mass Communication and Journalism (9 units)

- MCJ 1 - Mass Communication and Society **Units: 3**
- MCJ 2 - Media Writing **Units: 3**
- MCJ 172 - Media Law **Units: 3**
- OR**
- MCJ 173 - Media Ethics **Units: 3**

Mechanized Agriculture (3 units)

Select 3 units from:

- MEAG 1 - Introduction to Agricultural Mechanics **Units: 3**
- MEAG 20 - Agricultural Machinery and Equipment **Units: 3**
- MEAG 50 - Metallurgical Processes **Units: 3**

Soil and Water (3 units)

Select 3 units from:

- PLANT 71 - Agricultural Water **Units: 3**
- PLANT 171 - Soils in the Environment **Units: 3**
- PLANT 172 - Soils **Units: 3**

Plant Science (9 units)

Select 9 units from:

- PLANT 20 - Introduction to Crop Science **Units: 3**
- PLANT 30 - Introduction to Fruit Science **Units: 3**
- PLANT 40 - Introduction to Ornamental Horticulture **Units: 3**
- PLANT 130 - Fruit Species of California **Units: 3**

Agricultural Communications Career Specialty (15 units)

Select one: Advertising, Broadcast Journalism, Multimedia Production, Print Journalism, Public Relations (see Agricultural Communications Option check sheet available in the department office).

Additional Requirements

Agricultural education majors must take the following courses, which also satisfy General Education Breadth requirements. These courses amount to 12 units of the 48 unit G.E. requirement.

- CHEM 3A - Introductory General Chemistry **Units: 4** (Area B1)
- BIOL 10 - Life Science **Units: 3** (Area B2)
- BIOL 11 - Plant Biology **Units: 3** (Area B2)
OR
- BIOL 12 - Animal Biology **Units: 3** (Area B2)
- AGBS 1 - Introductory Agricultural Economics **Units: 3** (Area D2)
- ASCI 67 - Animals and Society **Units: 3** (Area E1)

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements .

Total Minimum Requirements: 120 Units*

* General Education, MI, and Upper-division Writing courses can be double counted with major requirements. See advisor for details.

Advising Notes

1. Teacher preparation majors seeking the Agriculture Specialist Credential must also take AGED 187 and AGED 189.
2. Contact the Kremen School of Education and Human Development for admission and program requirements for the Single Subject Credential.
3. 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.
4. 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.)

Agricultural Education - Teacher Preparation Option, B.S.

Degree Requirements

Major Requirements (54 units)

Teacher Preparation Core (39 units)

Agricultural Economics (6 units)

- AGBS 31 - Farm Accounting **Units: 3**
- AGBS 120 - Agribusiness Management **Units: 3**

Animal Science (9 units)

- ASCI 1 - Introduction to Animal Science **Units: 3**
- ASCI 11 - Meat Animal Selection and Evaluation **Units: 3**

Select One of the Following:

- ASCI 21 - Beef Cattle Production **Units: 3**
- ASCI 31 - Swine Production **Units: 3**
- ASCI 41 - Sheep Production **Units: 3**
- ASCI 61 - Dairy Cattle Production **Units: 3**
- ASCI 91 - Poultry Production **Units: 3**

Natural Resources and Forestry (3 units)

- PLANT 122 - Range Ecology and Management **Units: 3**

Mechanized Agriculture (9 units)

- MEAG 1 - Introduction to Agricultural Mechanics **Units: 3**
- MEAG 50 - Metallurgical Processes **Units: 3**
- MEAG 114 - Small Gasoline and Compact Diesel Engines **Units: 3**

Ornamental Horticulture (3 units)

- PLANT 40 - Introduction to Ornamental Horticulture **Units: 3**

Plant Science (9 units)

- PLANT 20 - Introduction to Crop Science **Units: 3**
- PLANT 172 - Soils **Units: 3**
OR
- PLANT 171 - Soils in the Environment **Units: 3**
- PLANT 130 - Fruit Species of California **Units: 3**

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

Agricultural education majors must take the following courses, which also satisfy General Education requirements. These courses amount to 12 units of the 48 unit G.E. requirement.

Teacher Preparation Option (9 units)

- AGED 50 - Orientation to Agricultural Education **Units: 3**
OR
- EHD 50 - Introduction to Teaching **Units: 3**
- AGED 135 - Introduction to Agricultural Education **Units: 3**
- AGED 150 - Agricultural Resources and Computer Applications **Units: 3**

Additional Requirements

Agricultural education majors must take the following courses, which also satisfy General Education requirements. These courses amount to 12 units of the 48 unit G.E. requirement.

- CHEM 3A - Introductory General Chemistry **Units: 4** (Area B1)
- BIOL 10 - Life Science **Units: 3** (Area B2)
- BIOL 11 - Plant Biology **Units: 3** (Area B2)
OR
- BIOL 12 - Animal Biology **Units: 3** (Area B2)
- AGBS 1 - Introductory Agricultural Economics **Units: 3** (Area D2)
- ASCI 67 - Animals and Society **Units: 3** (Area E1)

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing

- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements .

Total Minimum Requirements: 120 Units*

* General Education, MI, and Upper-division Writing courses can be double counted with major requirements. See advisor for details.

Advising Notes

1. Teacher preparation majors seeking the Agriculture Specialist Credential must also take AGED 187 and AGED 189.
2. Contact the Kremen School of Education and Human Development for admission and program requirements for the Single Subject Credential.
3. 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.
4. 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.)
5. 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 2 and other writing and editing courses. Contact the Media, Communications and Journalism Department for DQE information, requirements, and testing dates.

Animal Science - Production Management Option - Dairy Science Emphasis, B.S.

Degree Requirements

Major Requirements (66 units)

Animal Science Core (39 units)

- ASCI 1 - Introduction to Animal Science **Units: 3**
- ASCI 35 - Feeds and Feeding **Units: 3**
- ASCI 71 - Meat Science **Units: 3**
- ASCI 101 - Environmental Management of Farm Animals **Units: 3**

- ASCI 125 - Animal Genetics **Units: 3**
- ASCI 135 - Animal Nutrition **Units: 3**
- ASCI 145 - Anatomy and Physiology of Farm Animals **Units: 4**
- ASCI 155 - Animal Reproduction **Units: 3**
- ASCI 165 - Infectious Diseases of Domestic Animals **Units: 3**
- ASCI 186 - Animal Science Seminar **Units: 1**
- BIOL 20 - Introductory Microbiology **Units: 4**

Select 6 Units From the Following:

(see advising note 1)

- ASCI 12 - Pet and Companion Animal Management **Units: 3**
- ASCI 21 - Beef Cattle Production **Units: 3**
- ASCI 31 - Swine Production **Units: 3**
- ASCI 41 - Sheep Production **Units: 3**
- ASCI 51 - Horse Production **Units: 3**
- ASCI 61 - Dairy Cattle Production **Units: 3**
- ASCI 91 - Poultry Production **Units: 3**

Career Specialization: Dairy Science Management (27 units)

- ASCI 146 - Physiology of Lactation **Units: 3**
- ASCI 156 - Applied Reproductive Management **Units: 1**
- ASCI 161 - Advanced Dairy Farm Management **Units: 3**
- ASCI 163 - Dairy Cattle Nutrition **Units: 3**
- ASCI 164 - Advanced Commercial Dairy Management Evaluation **Units: 2**
- ASCI 175 - Agricultural Food Safety Systems **Units: 3**

Select 9 Units From:

- AGBS 28 - Introductory Agricultural Law **Units: 3**
OR
- BA 18 - Business and the Legal Environment **Units: 4**
- AGBS 31 - Farm Accounting **Units: 3**
OR
- ACCT 4A - Financial Accounting Principles and Systems **Units: 3**
- AGBS 71 - Agricultural Business Statistics **Units: 3**
OR
- PLANT 99 - Introduction to Biometrics **Units: 3**
- AGBS 117 - Agricultural Labor-Management Relations **Units: 3**
- AGBS 120 - Agribusiness Management **Units: 3**
- AGRI 100H - JCAST Honors Seminar **Units: 3**
- AGRI 101H - JCAST Honors Colloquium **Units: 3**

- AGRI 110 - Introduction to Agricultural Leadership **Units: 3**
- AGRI 120 - Leadership in Groups and Teams **Units: 3**
- AGRI 130 - Professional Development in Agriculture **Units: 3**
- AGRI 140 - Leadership and Change **Units: 3**
- CHEM 8 - Elementary Organic Chemistry **Units: 3**
- CHEM 150 - General Biochemistry **Units: 3**
- PLANT 20 - Introduction to Crop Science **Units: 3**
- PLANT 121 - Cereal and Forage Crops **Units: 3**
- PLANT 122 - Range Ecology and Management **Units: 3**
- PLANT 71 - Agricultural Water **Units: 3**
OR
- PLANT 171 - Soils in the Environment **Units: 3**
OR
- PLANT 172 - Soils **Units: 3**

Select 3 Units From

- ASCI 102 - Animal Welfare and Handling **Units: 3**
- ASCI 180 - Undergraduate Research **Units: 1-4**
- ASCI 181 - Advanced Livestock, Meat and Dairy Evaluation **Units: 3**
- ASCI 182 - Livestock Marketing and Show Management **Units: 1-2**
- ASCI 183 - Animal Industry Tour **Units: 3**
- ASCI 190 - Independent Study **Units: 1-3**
- ASCI 194I - Agricultural Internship **Units: 1-8**

Additional Requirements (13 units)

Each of the animal science options requires courses in the major that also satisfy General Education requirements. These courses amount to 12 units of the 48 unit General Education requirement.

- CHEM 3A - Introductory General Chemistry **Units: 4**
(Area B1)
- BIOL 10 - Life Science **Units: 3** (Area B2)
OR
- BIOL 12 - Animal Biology **Units: 3** (Area B2)
- AGBS 1 - Introductory Agricultural Economics **Units: 3**
(Area D2)
OR
- ECON 40 - Principles of Microeconomics **Units: 3**
(Area D2)
- ASCI 67 - Animals and Society **Units: 3** recommended
(Area E1)

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI) - *Animal Science majors are exempt from the MI requirement.*
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements .

Total Minimum Requirements: 120 Units*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. See advisor for details.

Advising Notes

1. Within the Animal Science Core, Equine Specialization majors are required to take ASCI 51, Dairy Specialization majors are required to take ASCI 61, and Meat Technology Specialization majors are required to take ASCI 91.
2. Mandatory advising is required of all students in the degree program. See the administrative support coordinator for the name of your assigned advisor.
3. New students should request an option advising check sheet from the department office.
4. All students should make an appointment with their assigned faculty advisor prior to registration each semester.
5. CR/NC grading is not permitted for courses included in the major unless the courses have been designated CR/NC grading only.
6. Total number of units will exceed 120 if a student chooses to meet all of the Veterinary Medicine entrance requirements. Prevetterinary and veterinary preparation students should consult their faculty advisor 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 Emphasis, B.S.

Degree Requirements

Major Requirements (66 units)

Animal Science Core (39 units)

- ASCI 1 - Introduction to Animal Science **Units: 3**
- ASCI 35 - Feeds and Feeding **Units: 3**
- ASCI 71 - Meat Science **Units: 3**
- ASCI 101 - Environmental Management of Farm Animals **Units: 3**
- ASCI 125 - Animal Genetics **Units: 3**
- ASCI 135 - Animal Nutrition **Units: 3**
- ASCI 145 - Anatomy and Physiology of Farm Animals **Units: 4**
- ASCI 155 - Animal Reproduction **Units: 3**
- ASCI 165 - Infectious Diseases of Domestic Animals **Units: 3**
- ASCI 186 - Animal Science Seminar **Units: 1**
- BIOL 20 - Introductory Microbiology **Units: 4**

Select 6 Units From the Following:

(see advising note 1)

- ASCI 12 - Pet and Companion Animal Management **Units: 3**
- ASCI 21 - Beef Cattle Production **Units: 3**
- ASCI 31 - Swine Production **Units: 3**
- ASCI 41 - Sheep Production **Units: 3**
- ASCI 51 - Horse Production **Units: 3**
- ASCI 61 - Dairy Cattle Production **Units: 3**
- ASCI 91 - Poultry Production **Units: 3**

Career Specialization: Equine Science Specialization (27 units)

- ASCI 151 - Advanced Horse Management **Units: 3**
- ASCI 153 - Stable Management **Units: 3**
- ASCI 156 - Applied Reproductive Management **Units: 1**

Select 9 Units From:

- AGBS 28 - Introductory Agricultural Law **Units: 3**
OR
- BA 18 - Business and the Legal Environment **Units: 4**
- AGBS 31 - Farm Accounting **Units: 3**
OR
- ACCT 4A - Financial Accounting Principles and Systems **Units: 3**
- AGBS 117 - Agricultural Labor-Management Relations **Units: 3**
- AGBS 120 - Agribusiness Management **Units: 3**
- AGRI 100H - JCAST Honors Seminar **Units: 3**
- AGRI 101H - JCAST Honors Colloquium **Units: 3**

- AGRI 110 - Introduction to Agricultural Leadership **Units: 3**
- AGRI 120 - Leadership in Groups and Teams **Units: 3**
- AGRI 130 - Professional Development in Agriculture **Units: 3**
- AGRI 140 - Leadership and Change **Units: 3**
- PLANT 20 - Introduction to Crop Science **Units: 3**
- PLANT 121 - Cereal and Forage Crops **Units: 3**
- PLANT 122 - Range Ecology and Management **Units: 3**
- PLANT 71 - Agricultural Water **Units: 3**
OR
- PLANT 171 - Soils in the Environment **Units: 3**
OR
- PLANT 172 - Soils **Units: 3**

Select 6 Units From:

- ASCI 56 - Beginning Colt Training **Units: 3**
- ASCI 57 - Advanced Colt Training **Units: 3**
- ASCI 187 - Equestrian **Units: 2**

Select 5 Units From:

- ASCI 102 - Animal Welfare and Handling **Units: 3**
- ASCI 180 - Undergraduate Research **Units: 1-4**
- ASCI 181 - Advanced Livestock, Meat and Dairy Evaluation **Units: 3**
- ASCI 182 - Livestock Marketing and Show Management **Units: 1-2**
- ASCI 183 - Animal Industry Tour **Units: 3**
- ASCI 190 - Independent Study **Units: 1-3**
- ASCI 194I - Agricultural Internship **Units: 1-8**

Additional Requirements (13 units)

Each of the animal science options requires courses in the major that also satisfy General Education requirements. These courses amount to 12 units of the 48 unit General Education requirement.

- CHEM 3A - Introductory General Chemistry **Units: 4** (Area B1)
- BIOL 10 - Life Science **Units: 3** (Area B2)
OR
- BIOL 12 - Animal Biology **Units: 3** (Area B2)
- AGBS 1 - Introductory Agricultural Economics **Units: 3** (Area D2)
OR
- ECON 40 - Principles of Microeconomics **Units: 3** (Area D2)
- ASCI 67 - Animals and Society **Units: 3** recommended (Area E1)

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI) - *Animal Science majors are exempt from the MI requirement.*
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements .

Total Minimum Requirements: 120 Units*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. See advisor for details.

Advising Notes

1. Within the Animal Science Core, Equine Specialization majors are required to take ASCI 51, Dairy Specialization majors are required to take ASCI 61, and Meat Technology Specialization majors are required to take ASCI 91.
2. Mandatory advising is required of all students in the degree program. See the administrative support coordinator for the name of your assigned advisor.
3. New students should request an option advising check sheet from the department office.
4. All students should make an appointment with their assigned faculty advisor prior to registration each semester.
5. CR/NC grading is not permitted for courses included in the major unless the courses have been designated CR/NC grading only.
6. Total number of units will exceed 120 if a student chooses to meet all of the Veterinary Medicine entrance requirements. Prevetterinary and veterinary preparation students should consult their faculty advisor 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 and Poultry Management Emphasis, B.S.

Degree Requirements

Major Requirements (66 units)

Animal Science Core (39 units)

- ASCI 1 - Introduction to Animal Science **Units: 3**
- ASCI 35 - Feeds and Feeding **Units: 3**
- ASCI 71 - Meat Science **Units: 3**
- ASCI 101 - Environmental Management of Farm Animals **Units: 3**
- ASCI 125 - Animal Genetics **Units: 3**
- ASCI 135 - Animal Nutrition **Units: 3**
- ASCI 145 - Anatomy and Physiology of Farm Animals **Units: 4**
- ASCI 155 - Animal Reproduction **Units: 3**
- ASCI 165 - Infectious Diseases of Domestic Animals **Units: 3**
- ASCI 186 - Animal Science Seminar **Units: 1**
- BIOL 20 - Introductory Microbiology **Units: 4**

Select 6 Units From the Following:

(see advising note 1)

- ASCI 12 - Pet and Companion Animal Management **Units: 3**
- ASCI 21 - Beef Cattle Production **Units: 3**
- ASCI 31 - Swine Production **Units: 3**
- ASCI 41 - Sheep Production **Units: 3**
- ASCI 51 - Horse Production **Units: 3**
- ASCI 61 - Dairy Cattle Production **Units: 3**
- ASCI 91 - Poultry Production **Units: 3**

Career Specialization: Livestock and Poultry Management Specialization (27 units)

- ASCI 11 - Meat Animal Selection and Evaluation **Units: 3**
- ASCI 81 - Introduction to Livestock, Meat and Dairy Evaluation **Units: 3**
- ASCI 156 - Applied Reproductive Management **Units: 1**

Select 9 Units From:

- AGBS 28 - Introductory Agricultural Law **Units: 3**
OR
- BA 18 - Business and the Legal Environment **Units: 4**
- AGBS 31 - Farm Accounting **Units: 3**
OR
- ACCT 4A - Financial Accounting Principles and Systems **Units: 3**
- AGBS 71 - Agricultural Business Statistics **Units: 3**
OR

- PLANT 99 - Introduction to Biometrics **Units: 3**
- AGBS 117 - Agricultural Labor-Management Relations **Units: 3**
- AGBS 120 - Agribusiness Management **Units: 3**
- AGRI 100H - JCAST Honors Seminar **Units: 3**
- AGRI 101H - JCAST Honors Colloquium **Units: 3**
- AGRI 110 - Introduction to Agricultural Leadership **Units: 3**
- AGRI 120 - Leadership in Groups and Teams **Units: 3**
- AGRI 130 - Professional Development in Agriculture **Units: 3**
- AGRI 140 - Leadership and Change **Units: 3**
- CHEM 8 - Elementary Organic Chemistry **Units: 3**
- CHEM 150 - General Biochemistry **Units: 3**
- PLANT 20 - Introduction to Crop Science **Units: 3**
- PLANT 121 - Cereal and Forage Crops **Units: 3**
- PLANT 122 - Range Ecology and Management **Units: 3**
- PLANT 71 - Agricultural Water **Units: 3**
OR
- PLANT 171 - Soils in the Environment **Units: 3**
OR
- PLANT 172 - Soils **Units: 3**

Select 6 Units From:

- ASCI 121 - Advanced Beef Management **Units: 3**
- ASCI 131 - Advanced Swine Management **Units: 3**
- ASCI 151 - Advanced Horse Management **Units: 3**
- ASCI 161 - Advanced Dairy Farm Management **Units: 3**
- ASCI 171 - Advance Meat Science **Units: 3**
- ASCI 172 - Meat Technology **Units: 3**
- ASCI 175 - Agricultural Food Safety Systems **Units: 3**
- ASCI 191 - Advanced Poultry Production **Units: 3**

Select 5 Units From:

- ASCI 102 - Animal Welfare and Handling **Units: 3**
- ASCI 180 - Undergraduate Research **Units: 1-4**
- ASCI 181 - Advanced Livestock, Meat and Dairy Evaluation **Units: 3**
- ASCI 182 - Livestock Marketing and Show Management **Units: 1-2**
- ASCI 183 - Animal Industry Tour **Units: 3**
- ASCI 190 - Independent Study **Units: 1-3**
- ASCI 194I - Agricultural Internship **Units: 1-8**

Additional Requirements (13 units)

Each of the animal science options requires courses in the major that also satisfy General Education requirements. These courses amount to 12 units of the 48 unit General Education requirement.

- CHEM 3A - Introductory General Chemistry **Units: 4** (Area B1)
- BIOL 10 - Life Science **Units: 3** (Area B2)
OR
- BIOL 12 - Animal Biology **Units: 3** (Area B2)
- AGBS 1 - Introductory Agricultural Economics **Units: 3** (Area D2)
OR
- ECON 40 - Principles of Microeconomics **Units: 3** (Area D2)
- ASCI 67 - Animals and Society **Units: 3** recommended (Area E1)

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI) - *Animal Science majors are exempt from the MI requirement.*
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Minimum Requirements: 120 Units*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. See advisor for details.

Advising Notes

1. Within the Animal Science Core, Equine Specialization majors are required to take ASCI 51, Dairy Specialization majors are required to take ASCI 61, and Meat Technology Specialization majors are required to take ASCI 91.
2. Mandatory advising is required of all students in the degree program. See the administrative support coordinator for the name of your assigned advisor.
3. New students should request an option advising check sheet from the department office.
4. All students should make an appointment with their assigned faculty advisor prior to registration each semester.
5. CR/NC grading is not permitted for courses included in the major unless the courses have been designated CR/NC grading only.
6. Total number of units will exceed 120 if a student chooses to meet all of the Veterinary Medicine entrance requirements. Pre-veterinary and veterinary preparation students should consult their faculty advisor 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 Emphasis, B.S.

Degree Requirements

Major Requirements (65 units)

Animal Science Core (39 units)

- ASCI 1 - Introduction to Animal Science **Units: 3**
- ASCI 35 - Feeds and Feeding **Units: 3**
- ASCI 71 - Meat Science **Units: 3**
- ASCI 101 - Environmental Management of Farm Animals **Units: 3**
- ASCI 125 - Animal Genetics **Units: 3**
- ASCI 135 - Animal Nutrition **Units: 3**
- ASCI 145 - Anatomy and Physiology of Farm Animals **Units: 4**
- ASCI 155 - Animal Reproduction **Units: 3**
- ASCI 165 - Infectious Diseases of Domestic Animals **Units: 3**
- ASCI 186 - Animal Science Seminar **Units: 1**
- BIOL 20 - Introductory Microbiology **Units: 4**

Select 6 Units From the Following:

(see advising note 1)

- ASCI 12 - Pet and Companion Animal Management **Units: 3**
- ASCI 21 - Beef Cattle Production **Units: 3**
- ASCI 31 - Swine Production **Units: 3**
- ASCI 41 - Sheep Production **Units: 3**
- ASCI 51 - Horse Production **Units: 3 ***
- ASCI 61 - Dairy Cattle Production **Units: 3 ***
- ASCI 91 - Poultry Production **Units: 3 ***

Career Specialization: Meat Technology Specialization (26 units)

- ASCI 11 - Meat Animal Selection and Evaluation **Units: 3**
- ASCI 171 - Advance Meat Science **Units: 3**
- ASCI 172 - Meat Technology **Units: 3**
- ASCI 175 - Agricultural Food Safety Systems **Units: 3**
- ASCI 191 - Advanced Poultry Production **Units: 3**

- CHEM 8 - Elementary Organic Chemistry **Units: 3**

Select 3 Units From:

- ASCI 121 - Advanced Beef Management **Units: 3**
- ASCI 131 - Advanced Swine Management **Units: 3**
- ASCI 151 - Advanced Horse Management **Units: 3**
- ASCI 161 - Advanced Dairy Farm Management **Units: 3**

Select 5 Units From:

- ASCI 180 - Undergraduate Research **Units: 1-4**
- ASCI 181 - Advanced Livestock, Meat and Dairy Evaluation **Units: 3**
- ASCI 182 - Livestock Marketing and Show Management **Units: 1-2**
- ASCI 183 - Animal Industry Tour **Units: 3**
- ASCI 190 - Independent Study **Units: 1-3**
- ASCI 194I - Agricultural Internship **Units: 1-8**

Additional Requirements (13 units)

Each of the animal science options requires courses in the major that also satisfy General Education requirements. These courses amount to 12 units of the 48 unit General Education requirement.

- CHEM 3A - Introductory General Chemistry **Units: 4** (Area B1)
- BIOL 10 - Life Science **Units: 3** (Area B2)
OR
- BIOL 12 - Animal Biology **Units: 3** (Area B2)
- AGBS 1 - Introductory Agricultural Economics **Units: 3** (Area D2)
OR
- ECON 40 - Principles of Microeconomics **Units: 3** (Area D2)
- ASCI 67 - Animals and Society **Units: 3** recommended (Area E1)

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI) - *Animal Science majors are exempt from the MI requirement.*
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Minimum Requirements: 120 Units*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. See advisor for details.

Advising Notes

1. Within the Animal Science Core, Equine Specialization majors are required to take ASCI 51, Dairy Specialization majors are required to take ASCI 61, and Meat Technology Specialization majors are required to take ASCI 91.
2. Mandatory advising is required of all students in the degree program. See the administrative support coordinator for the name of your assigned advisor.
3. New students should request an option advising check sheet from the department office.
4. All students should make an appointment with their assigned faculty advisor prior to registration each semester.
5. CR/NC grading is not permitted for courses included in the major unless the courses have been designated CR/NC grading only.
6. Total number of units will exceed 120 if a student chooses to meet all of the Veterinary Medicine entrance requirements. Pre-veterinary and veterinary preparation students should consult their faculty advisor 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 Emphasis, B.S.

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 Pre-veterinary 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
CHEM 1A - General Chemistry 1A and CHEM 1AL - General Chemistry Laboratory 1A
- 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 <http://fresnostate.edu/studentaffairs/registrar/forms/index.html>

Degree Requirements

Major Requirements (65 units)

Animal Science Core (39 units)

- ASCI 1 - Introduction to Animal Science **Units: 3**
- ASCI 35 - Feeds and Feeding **Units: 3**
- ASCI 71 - Meat Science **Units: 3**
- ASCI 101 - Environmental Management of Farm Animals **Units: 3**
- ASCI 125 - Animal Genetics **Units: 3**
- ASCI 135 - Animal Nutrition **Units: 3**
- ASCI 145 - Anatomy and Physiology of Farm Animals **Units: 4**
- ASCI 155 - Animal Reproduction **Units: 3**
- ASCI 165 - Infectious Diseases of Domestic Animals **Units: 3**
- ASCI 186 - Animal Science Seminar **Units: 1**
- BIOL 20 - Introductory Microbiology **Units: 4**

Select 6 Units From the Following:

- ASCI 12 - Pet and Companion Animal Management **Units: 3**
- ASCI 21 - Beef Cattle Production **Units: 3**
- ASCI 31 - Swine Production **Units: 3**
- ASCI 41 - Sheep Production **Units: 3**
- ASCI 51 - Horse Production **Units: 3**
- ASCI 61 - Dairy Cattle Production **Units: 3**
- ASCI 91 - Poultry Production **Units: 3**

Career Specialization: Veterinary Preparation (26 units)

- ASCI 68 - Pre-Vet Orientation **Units: 1**
- ASCI 156 - Applied Reproductive Management **Units: 1**
- BIOL 1B - Introductory Biology **Units: 3**
- BIOL 1BL - Introductory Biology Laboratory **Units: 1**
- CHEM 1B - General Chemistry 1B **Units: 3**
- CHEM 1BL - General Chemistry Laboratory 1B **Units: 2**
- CHEM 128A - Organic Chemistry **Units: 3**
AND
- CHEM 128B - Organic Chemistry **Units: 3**
- CHEM 129A - Organic Chemistry Laboratory **Units: 2**
- CHEM 150 - General Biochemistry **Units: 3**
- PHYS 2A - General Physics **Units: 4**

Additional Requirements (12 units)

Each of the animal science options requires courses in the major that also satisfy General Education requirements. These courses amount to 9 units of the 48 unit General Education in Breadth.

- CHEM 1A - General Chemistry 1A **Units: 3** (Area B1)
AND
- CHEM 1AL - General Chemistry Laboratory 1A **Units: 2** (Area B1)
- BIOL 1A - Introductory Biology **Units: 4** (Area B2)
- ASCI 67 - Animals and Society **Units: 3** recommended (Area E1)

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI) - *Animal Science majors are exempt from the MI requirement.*
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Minimum Requirements: 120 Units*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. See advisor for details.

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 advisor.
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 advisor 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. Total number of units will exceed 120 if a student chooses to meet all of the Veterinary Medicine entrance requirements. Preveternary and veterinary preparation students should consult their faculty advisor 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 Emphasis, B.S.

Degree Requirements

Major Requirements (63 units)

Animal Science Core (39 units)

- ASCI 1 - Introduction to Animal Science **Units: 3**
- ASCI 35 - Feeds and Feeding **Units: 3**
- ASCI 71 - Meat Science **Units: 3**
- ASCI 101 - Environmental Management of Farm Animals **Units: 3**
- ASCI 125 - Animal Genetics **Units: 3**
- ASCI 135 - Animal Nutrition **Units: 3**
- ASCI 145 - Anatomy and Physiology of Farm Animals **Units: 4**
- ASCI 155 - Animal Reproduction **Units: 3**
- ASCI 165 - Infectious Diseases of Domestic Animals **Units: 3**
- ASCI 186 - Animal Science Seminar **Units: 1**
- BIOL 20 - Introductory Microbiology **Units: 4**

Select 6 Units From the Following:

- ASCI 12 - Pet and Companion Animal Management **Units: 3**
- ASCI 21 - Beef Cattle Production **Units: 3**
- ASCI 31 - Swine Production **Units: 3**

- ASCI 41 - Sheep Production **Units: 3**
- ASCI 51 - Horse Production **Units: 3**
- ASCI 61 - Dairy Cattle Production **Units: 3**
- ASCI 91 - Poultry Production **Units: 3**

Career specialization: Preprofessional Specialization (24 units)

- ASCI 156 - Applied Reproductive Management **Units: 1**
- CHEM 8 - Elementary Organic Chemistry **Units: 3**
OR
- CHEM 128A - Organic Chemistry **Units: 3**
- CHEM 129A - Organic Chemistry Laboratory **Units: 2**
- CHEM 150 - General Biochemistry **Units: 3**

Select 6 Units From:

- ASCI 121 - Advanced Beef Management **Units: 3**
- ASCI 131 - Advanced Swine Management **Units: 3**
- ASCI 151 - Advanced Horse Management **Units: 3**
- ASCI 161 - Advanced Dairy Farm Management **Units: 3**
- ASCI 171 - Advance Meat Science **Units: 3**
- ASCI 172 - Meat Technology **Units: 3**
- ASCI 175 - Agricultural Food Safety Systems **Units: 3**
- ASCI 191 - Advanced Poultry Production **Units: 3**

Select 6 Units From:

- AGBS 28 - Introductory Agricultural Law **Units: 3**
OR
- BA 18 - Business and the Legal Environment **Units: 4**
- AGBS 31 - Farm Accounting **Units: 3**
OR
- ACCT 4A - Financial Accounting Principles and Systems **Units: 3**
- AGBS 117 - Agricultural Labor-Management Relations **Units: 3**
- AGBS 120 - Agribusiness Management **Units: 3**
- AGRI 100H - JCAST Honors Seminar **Units: 3**
- AGRI 101H - JCAST Honors Colloquium **Units: 3**
- AGRI 110 - Introduction to Agricultural Leadership **Units: 3**
- AGRI 120 - Leadership in Groups and Teams **Units: 3**
- AGRI 130 - Professional Development in Agriculture **Units: 3**
- AGRI 140 - Leadership and Change **Units: 3**
- PLANT 20 - Introduction to Crop Science **Units: 3**
- PLANT 121 - Cereal and Forage Crops **Units: 3**
- PLANT 122 - Range Ecology and Management **Units: 3**

- PLANT 71 - Agricultural Water **Units: 3**
OR
- PLANT 171 - Soils in the Environment **Units: 3**
OR
- PLANT 172 - Soils **Units: 3**

Select 3 Units From:

- ASCI 102 - Animal Welfare and Handling **Units: 3**
- ASCI 180 - Undergraduate Research **Units: 1-4**
- ASCI 182 - Livestock Marketing and Show Management **Units: 1-2**
- ASCI 183 - Animal Industry Tour **Units: 3**
- ASCI 190 - Independent Study **Units: 1-3**
- ASCI 194I - Agricultural Internship **Units: 1-8**

Additional Requirements (13 - 15 units)

Each of the animal science options requires courses in the major that also satisfy General Education requirements. These courses amount to 12 units of the 48 unit General Education requirement.

- CHEM 1A - General Chemistry 1A **Units: 3** (Area B1)
AND
- CHEM 1AL - General Chemistry Laboratory 1A **Units: 2** (Area B1)
OR
- CHEM 3A - Introductory General Chemistry **Units: 4** (Area B1)
- BIOL 1A - Introductory Biology **Units: 4** (Area B2)
OR
- BIOL 12 - Animal Biology **Units: 3** (Area B2)
- MATH 11 - Elementary Statistics **Units: 3** (Area B4)
- ASCI 67 - Animals and Society **Units: 3** recommended (Area E1)

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI) - *Animal Science majors are exempt from the MI requirement.*
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Minimum Requirements: 120 Units**

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. See advisor for details.

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 advisor.
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 advisor 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. 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 advisor regarding entrance requirements and admissions procedures to veterinary school. Additional courses such as PHYS 2B, calculus, and statistics may be required.

Anthropology, B.A.

Degree Requirements

Major Requirements (45 units)

Core Curriculum (24 units)

- ANTH 2 - Introduction to Cultural Anthropology **Units: 3** (Area D2)
- ANTH 3 - Introduction to Prehistory and Physical Anthropology **Units: 3** (Area D2)
- ANTH 102 - Introduction to Linguistic Anthropology **Units: 3**
- ANTH 115 - Contemporary Global Culture **Units: 3**
- ANTH 140 - Contemporary Archaeology **Units: 3**
- ANTH 167 - Human Evolutionary Theory **Units: 3**
- ANTH 193I - Internships in Anthropology **Units: 1-6** (for 3 units)
- ANTH 195 - Colloquium **Units: 1**
- ANTH 196 - Seminar: Anthropological Futures **Units: 2**

Methodological Training (6 units)

Select one area of emphasis

Cultural Anthropology Emphasis:

- ANTH 111 - Ethnographic Fieldwork **Units: 3**
- ANTH 111B - Intermediate Ethnographic Fieldwork **Units: 3**

Archaeology Emphasis:

- ANTH 101 - Introductory Fieldwork in Archaeology **Units: 3-6**
- ANTH 103 - Archaeological Site Survey **Units: 3**

Biophysical Anthropology Emphasis:

- ANTH 164 - Human Osteology **Units: 3**
- ANTH 166 - Human Paleopathology **Units: 3**
OR
- ANTH 168 - Research Methods in Human Skeletal Biology **Units: 3**

In addition to the core curriculum, each student, in consultation with an advisor, will select the following:

Elective curriculum(15 units minimum) (see Advising Note 2)

- Three upper-division classes within the student's area of emphasis (e.g. cultural, physical, or archaeology) (9 units)
- Two additional upper-division classes, one in each remaining subdiscipline (e.g., an archaeology student would take one cultural and one physical course) (6 units)

Certificates: Students may benefit from a certificate program. If a student completes an approved certificate, then they will be exempt from one elective in their area of emphasis; please consult an advisor.

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements .

Total: 120 Units*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. See advisor for details.

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 2 or ANTH 3 in G. E. Breadth D2 may be applied to the anthropology major. Consult the department chair or faculty advisor for additional details.
3. ANTH 161 may not be used to satisfy elective requirements for the major and ANTH 117 and ANTH 118 can satisfy either the cultural or physical elective.
4. Units in this category as well as in General Education, may also be applied toward a double major or minor, as appropriate.
5. ANTH 30 does not satisfy elective requirements in the major.

Architectural Studies, B.S.

Bachelor of Science Degree Requirements

Program Description

The Architectural Studies program is unique and intimate, providing an excellent opportunity for one on one training. The Program's size provides for small group instruction and individual mentoring. Through collaborative learning experiences students are given hands-on exposure to the AEC industry and the profession of Architecture. The program incorporates interdisciplinary courses that not only provide students with a solid understanding of the Profession of Architecture including: Programming, Planning, and Design concepts but also a working knowledge of construction to make them a valuable resource to the architecture profession.

Mission Statement

"To educate in the principles of design and construction creating professionals that inspire the global community with innovative, sustainable, and collaborative interpretations of the built environment."

Major Requirements (58)

Lower-division Major Requirements

- ARCH 1 - Construction Management and Architectural Studies Orientation 1 **Units: 1**
- ARCH 2 - Construction Management and Architectural Studies Orientation 2 **Units: 1**
- ARCH 17 - Construction Materials & Basic Building Systems **Units: 3**
- ARCH 18 - Construction Graphics **Units: 3**

- ARCH 19L - Integrated Construction Lab **Units: 1**
- ARCH 20 - Construction Documents **Units: 3**
- ARCH 30 - History of Architecture I **Units: 3**
- ARCH 31 - Architectural Graphics **Units: 3**
- ARCH 32 - Architectural Design **Units: 3**
- ARCH 33 - History of Architecture II **Units: 3**
- ARCH 50 - Basic Building Codes **Units: 3**

Upper-division Major Requirements

- ARCH 105 - Construction Structures **Units: 3**
- ARCH 131 - Advanced Architectural Graphics **Units: 3**
- ARCH 132 - Advanced Architectural Design **Units: 3**
- ARCH 137L - Integrated Design Lab **Units: 1**
- ARCH 138 - Advanced Architectural Design Project **Units: 4**
- ARCH 140 - Building Mechanical, Electrical, and Plumbing **Units: 3**
- ARCH 178 - Architectural Practice Seminar **Units: 1**
- ARCH 180A - Architectural Studies Capstone 1 **Units: 1**
- CM 180B - Construction Management Capstone 2 **Units: 3 (Area IB)**
- ARCH 193i - Internship/Work Experience **Units: 1 (for 0 - 1 unit)**

Architecture Electives (9 units)

Select three courses from the following:

- ARCH 134 - Architectural Design Problems **Units: 3**
- ARCH 144 - Construction Site Planning and Development **Units: 3**
- ARCH 145

Credits / Units: 3

- ARCH 177 - Sustainable Construction **Units: 3**
- ARCH 191T/CM 191T in Landscape Architecture or California Architecture Heritage

Credits / Units: 3

Additional Requirements (17 units)

Math

- MATH 70 - Calculus for Life Sciences **Units: 4 (Area B4)**
- OR**
- MATH 75 - Calculus I **Units: 4 (Area B4)**

Physics

- PHYS 2A - General Physics **Units: 4 (Area B1)**

Additional Elective Courses (9 units)

Select three courses from the following:

- ART 13 - Design **Units: 3**
- ART 20 - Drawing **Units: 3**
- ART 113 - Design **Units: 3**
- ART 120 - Intermediate Drawing **Units: 3**
- CM 107 - Advanced Construction Structures **Units: 3**
- CM 110 - Estimating and Bidding **Units: 3**
- CM 116 - Construction Scheduling **Units: 3**
- CM 122 - Construction Laws **Units: 3**
- CM 124 - Construction Labor Relations **Units: 3**
- CRP 80 - Introduction to Cities and Urban Planning **Units: 3**
- CRP 110 - Planning Process and Theory **Units: 3**
- CRP 115 - Urban Design **Units: 3**
- CRP 120 - Community Development Theory & Practice **Units: 3**
- CRP 125 - Environmental Planning **Units: 3**
- GEOG 132 - United States Environmental Law **Units: 3**
- GEOG 160 - Urban Geography **Units: 3**
- ID 43 - Design Graphics I **Units: 3**
- ID 77 - Design Graphics II **Units: 3**
- ID 116 - Design Graphics IV **Units: 3**
- ID 134 - Restoration and Preservation **Units: 3**
- ID 145 - Design Studio VI-c: Human/Environmental Topics **Units: 4**
- SOC 163 - Urban Sociology **Units: 3**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units) - *Architectural Studies majors are exempt from Area IC.*
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total: 120 Units*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. These courses include PHYS 2A (Area B1), MATH 70 or MATH 75 (Area B4), and CM 180B (Area IB). See advisor for details.

Advising Notes

1. Courses in major requirements, mathematics, and the physical sciences taken CR/NC are not counted toward fulfillment of degree requirements.
2. Students must achieve a "C" or better in major requirements, mathematics, and physical sciences courses.
3. All architectural studies students must consult with their academic advisors at least once per academic year.
4. All students enrolled in architectural studies courses are required to follow the "DISCOVERe Mobile Device Requirements" as established by the Department of Construction Management. The current version of these requirements can be found on the department website: <http://fresnostate.edu/engineering/cm/documents/mobile-device-requirements2019real.pdf>

Art - Animation Intermedia Option, B.A.

Degree Requirements

Major Requirements (54 - 59 units)

Art Major Core (30 units)

Lower-Division Requirements (21 units)

- ARTH 10 - The Ancient Medieval Worlds **Units: 3** (Area C1)
AND
- ARTH 11 - The Early Modern World **Units: 3** (Area C1)
- ART 13 - Design **Units: 3** (Area E)
- ART 14 - 3 Dimensional Design **Units: 3**
- ART 16 - Introduction to Color Theory **Units: 3**
- ART 20 - Drawing **Units: 3** (Area C1)
- ART 37 - Introduction to Computer Art **Units: 3**

Upper-Division Requirements (9 units)

- ART 101 - Content and Form **Units: 3**
AND
- ART 112 - Gallery Techniques **Units: 3**
- ARTH 132 - Twentieth Century Modern Art **Units: 3**

Animation Intermedia Option Requirements (24 - 29 units)

Central Requirements (9 units)

- ART 30 - Introduction to Photography **Units: 3**

- ART 188 - Digital Video Art **Units: 3**
- ART 50 - Beginning Sculpture **Units: 3** (Area C1)
OR
- ART 60 - Beginning Ceramics **Units: 3**
OR
- ART 80 - Beginning 3D Digital Art - Modeling **Units: 3**

Content Development Requirements (6 - 8 units)

Select One Course From:

- DRAMA 32 - Introduction to Acting **Units: 3**
- DRAMA 34 - Theatre Crafts **Units: 3**
- DRAMA 41 - Makeup for Theatre **Units: 3**
- ENGL 41 - Poetry Writing **Units: 4**
- ENGL 43 - Fiction Writing **Units: 4**
- ENGL 44 - Creative Nonfiction Writing **Units: 4**

Select One Course From:

- DRAMA 150 - Acting for Film **Units: 3**
- DRAMA 163 - Dramatic Literature **Units: 3**
- DRAMA 180A - Scene Design for Theatre **Units: 3**
- DRAMA 180B - Scene Design for Theatre **Units: 3**
- DRAMA 181A - Costume History for Theatre **Units: 3**
- ENGL 101 - Masterpieces of World Literature **Units: 4**
- ENGL 102 - Masterpieces of English Literature **Units: 4**
- ENGL 103 - Masterpieces of American Literature **Units: 4**
- ENGL 104 - Children's and Adolescent Literature **Units: 4**
- ENGL 112 - World Literature: Ancient **Units: 4**
- ENGL 113 - World Literature: Medieval and Renaissance **Units: 4**
- ENGL 114 - World Literature: Modern **Units: 4**
- ENGL 161 - Advanced Writing of Poetry **Units: 4**
- ENGL 163 - Advanced Writing of Fiction **Units: 4**
- ENGL 164 - Advanced Writing of Creative Nonfiction **Units: 4**

Media Awareness Requirement (3 units)

Select one course from:

- MCJ 175 - Stereotypes and Representation in Media **Units: 3**
- MCJ 178 - New Media Technologies **Units: 3**
- MCJ 179 - Cineculture **Units: 3**

Area of Emphasis (6 - 9 units)

I. New Media Emphasis:

- ART 102 - Ideas of Visual Culture: Art, Media, and the Computer **Units: 3**
- ART 133 - Alternative Approaches to Digital Imagery **Units: 3**

II. 2D Animation Emphasis:

- ART 181 - 2-D Animation 1 **Units: 3**
- ART 184 - 2D Animation 2 **Units: 3**

III. 3D Animation Emphasis:

- ART 181 - 2-D Animation 1 **Units: 3**
- ART 186 - Intermediate 3D Digital Art - Animation **Units: 3**
AND
- ART 187A - Advanced 3D Digital Art - Environment **Units: 3**
OR
- ART 187B - Advanced 3D Digital Art - Indirect Animation **Units: 3**
OR
- ART 187C - Advanced 3D Digital Art - Character **Units: 3**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. See advisor for details. This total indicates that courses in G.E. Breadth C1 and G.E. Breadth E1 may be applied to the art major. These courses include ARTH 10, ARTH 11, ART 20, ART 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 198I.
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 advisor for further information.

Art History, B.A.

Degree Requirements

Major Requirements (45-47 units)

Lower-Division Requirements

Select one:

- ART 13 - Design **Units: 3**
- ART 14 - 3 Dimensional Design **Units: 3**
- ART 16 - Introduction to Color Theory **Units: 3**

Second Language or Studio Art

Choose 6-8 units of one second language (see advising note 3) or 6 units from Studio Art Courses:

- ART 13 - Design **Units: 3**
- ART 14 - 3 Dimensional Design **Units: 3**
- ART 16 - Introduction to Color Theory **Units: 3**
- ART 20 - Drawing **Units: 3**
- ART 24 - Beginning Printmaking **Units: 3**
- ART 30 - Introduction to Photography **Units: 3**
- ART 37 - Introduction to Computer Art **Units: 3**
- ART 40 - Painting **Units: 3**
- ART 50 - Beginning Sculpture **Units: 3**
- ART 60 - Beginning Ceramics **Units: 3**

Select two:

- ARTH 10 - The Ancient Medieval Worlds **Units: 3** (Area C1)
- ARTH 11 - The Early Modern World **Units: 3** (Area C1)
- ARTH 12 - Asian Art **Units: 3** (Area C1)

Upper-Division Requirements

- ARTH 180 - Methods and Theories of Art History **Units: 3**
- ARTH 141 - Arts of East Asia **Units: 3**
OR
- ARTH 142 - Arts of South Asia **Units: 3**

Renaissance and Baroque Art:

Italian Renaissance, Northern Renaissance, Southern Baroque, Northern Baroque, Arts of Colonial Mexico, Arts of the Colonial Andes

Select two:

- ARTH 120 - Italian Renaissance **Units: 3**
- ARTH 122 - Northern Renaissance **Units: 3**
- ARTH 124 - Southern Baroque **Units: 3**
- ARTH 126 - Northern Baroque **Units: 3**
- ARTH 127 - Arts of Colonial Mexico **Units: 3**
- ARTH 128 - Arts of the Colonial Andes **Units: 3**

Modern and Contemporary Art

Nineteenth-Century Modern Art, Twentieth-Century Modern Art, Contemporary

Select two:

- ARTH 131 - Nineteenth Century Modern Art **Units: 3**
- ARTH 132 - Twentieth Century Modern Art **Units: 3**
- ARTH 136 - Contemporary Art **Units: 3**

Asian Art

Arts of Southeast Asia, Kingdoms of Monsoon Asia

Required:

- ARTH 140 - Arts of Southeast Asia **Units: 3** (Area IC)
- ARTH 143 - Kingdoms of Monsoon Asia **Units: 3** (Area ID)

Native American and African Art

Africa, Native North America, Pre-Columbian Mexico, Pre-Columbian Andes

Select two:

- ARTH 160 - Africa **Units: 3**
- ARTH 170 - Native North American **Units: 3**
- ARTH 173 - Pre-Columbian Mexico **Units: 3**
- ARTH 175 - Pre-Columbian Andes **Units: 3**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)

- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total: 120 Units*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. These courses include ARTH 10, ARTH 11, ARTH 12 (G.E. C1), ARTH 140 (G.E. IC), and ARTH 143 (G.E. ID). ARTH 141 or ARTH 142 will fulfill the MI requirement. See advisor for details.

Advising Notes

1. CR/NC grading is only permitted in ART 198I - Internship in Art.
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 advisor for further information.
3. To satisfy the second language requirement, art history majors are required to complete two courses (e. g. FREN 1A, FREN 1B, CHIN 1A, CHIN 1B, etc.) in the same language in sequence. English courses and American Sign Language courses are not acceptable to meet this requirement.

Art, B.A.

Degree Requirements

Major Requirements (57 units)

Art Major Core (30 units)

Lower-Division Requirements (21 units)

- ARTH 10 - The Ancient Medieval Worlds **Units: 3** (Area C1)
AND
- ARTH 11 - The Early Modern World **Units: 3** (Area C1)
- ART 13 - Design **Units: 3** (Area E)
- ART 14 - 3 Dimensional Design **Units: 3**
- ART 16 - Introduction to Color Theory **Units: 3**
- ART 20 - Drawing **Units: 3** (Area C1)
- ART 37 - Introduction to Computer Art **Units: 3**

Upper-Division Art Requirements (15 units)

- ART 101 - Content and Form **Units: 3**
AND
- ART 112 - Gallery Techniques **Units: 3**
- ARTH 132 - Twentieth Century Modern Art **Units: 3**
- and two additional 3 unit upper division art history courses.

Art Remaining Requirements (6 units)

- ART 24 - Beginning Printmaking **Units: 3**
OR
- ART 30 - Introduction to Photography **Units: 3**
OR
- ART 40 - Painting **Units: 3** (Area C1)
- ART 50 - Beginning Sculpture **Units: 3** (Area C1)
OR
- ART 60 - Beginning Ceramics **Units: 3**
OR
- ART 70 - Crafts **Units: 3**
OR
- ART 80 - Beginning 3D Digital Art - Modeling **Units: 3**

Area of Emphasis (I, II, III) (15 units)

I. Drawing/Painting

- ART 40 - Painting **Units: 3**
- ART 120 - Intermediate Drawing **Units: 3**
- ART 121 - Figure Drawing **Units: 3**
- ART 123 - Advanced Drawing **Units: 3**
- ART 140 - Intermediate Painting **Units: 3**
- ART 141 - Advanced Painting **Units: 3**

II. Ceramics/Sculpture

- ART 50 - Beginning Sculpture **Units: 3**
- ART 60 - Beginning Ceramics **Units: 3**
- ART 152 - Intermediate Sculpture **Units: 3**
- ART 153 - Advanced Sculpture **Units: 3**
- ART 155 - Sculpture: Foundry **Units: 3**
- ART 160 - Intermediate Ceramics **Units: 3**
- ART 161 - Advanced Ceramics **Units: 3**
- ART 165 - Ceramic Glazes **Units: 3**
- ART 166 - Glass Blowing Studio **Units: 3**

III. Printmaking/Photography

- ART 24 - Beginning Printmaking **Units: 3**
- ART 30 - Introduction to Photography **Units: 3**
- ART 124 - Relief Printmaking **Units: 3**
- ART 125 - Lithography **Units: 3**
- ART 126 - Intaglio **Units: 3**
- ART 127 - Screenprinting **Units: 3**

- ART 128 - Advanced Printmaking **Units: 3**
- ART 130 - Intermediate Black and White Photography **Units: 3**
- ART 133 - Alternative Approaches to Digital Imagery **Units: 3**
- ART 182 - Large Format Photography **Units: 3**
- ART 183 - Extended Projects in Photography **Units: 3**
- ART 185 - Color Photography **Units: 3**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total: 120 Units*

**General Education, MI, and Upper-division Writing courses can be double counted with major requirements. These courses include ARTH 10, ARTH 11, ART 20, ART 40, ART 50 (G.E. C1); and/or ART 13 (G.E. E1). See advisor for details.

Advising Notes

1. CR/NC grading is only permitted in ART 198I - Internship in Art.
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 advisor for further information.

Biochemistry, B.S.

Degree Requirements

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 the major or additional requirements for CR/NC grades.

Major Requirements (50-54 units)

Core Program

- CHEM 1A - General Chemistry 1A **Units:** 3 (Area B1)
- CHEM 1AL - General Chemistry Laboratory 1A **Units:** 2 (Area B1)
- CHEM 1B - General Chemistry 1B **Units:** 3
- CHEM 1BL - General Chemistry Laboratory 1B **Units:** 2
- CHEM 102 - Quantitative Analytical Chemistry **Units:** 5
- CHEM 110A - Physical Chemistry **Units:** 3
- CHEM 112 - Biophysical Chemistry **Units:** 3
- CHEM 128A - Organic Chemistry **Units:** 3
- CHEM 128B - Organic Chemistry **Units:** 3
- CHEM 129A - Organic Chemistry Laboratory **Units:** 2
- CHEM 129B - Organic Chemistry Laboratory **Units:** 2
- CHEM 155A - Fundamentals of Biochemistry **Units:** 3
- CHEM 155B - Physiological Chemistry and Metabolism **Units:** 3
- CHEM 156 - Biochemical Laboratory Techniques **Units:** 3

Select Two Additional Upper-Division CHEM Courses (4-7 units):

- CHEM 106 - Analytical Measurements Laboratory **Units:** 4
- CHEM 106S - Instrumental Analysis in Industrial Settings **Units:** 4
- CHEM 111 - Physical Chemistry Laboratory **Units:** 3
- CHEM 123 - Advanced Inorganic Chemistry **Units:** 3
- CHEM 124 - Synthesis and Characterization **Units:** 2
- CHEM 190 - Independent Study **Units:** 1-3
- or other approved courses.

Select Two Additional Upper-Division BIOL Courses (6-7 units):

- BIOL 102 - Genetics **Units:** 3
- BIOL 103 - Cellular Biology **Units:** 3
- BIOL 104 - Genetics and Cell Biology Lab **Units:** 1
- BIOL 120 - Microbiology **Units:** 3 or other approved courses.

Additional Requirements (24-27 units)

- BIOL 1A - Introductory Biology **Units:** 4 (Area B2)

- BIOL 1B - Introductory Biology **Units:** 3
- BIOL 1BL - Introductory Biology Laboratory **Units:** 1
- MATH 75 - Calculus I **Units:** 4 (Area B4)
- MATH 76 - Calculus II **Units:** 4

- PHYS 2A - General Physics **Units:** 4 (Area B1)
- PHYS 2B - General Physics **Units:** 4
- OR
- PHYS 4A - Mechanics and Wave Motion **Units:** 3 (Area B1)
- PHYS 4AL - Laboratory in Mechanics and Wave Motion **Units:** 1 (Area B1)
- PHYS 4B - Electricity, Magnetism, and Heat **Units:** 3
- PHYS 4BL - Laboratory in Electricity, Magnetism, and Heat **Units:** 1
- PHYS 4C - Light and Modern Physics **Units:** 3 (strongly recommended)

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total: 120 Units*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. These courses include CHEM 1A and CHEM 1AL or PHYS 2A (or PHYS 4A and PHYS 4AL) in G.E. Breadth B1, BIOL 1A in G.E. Breadth B2, and 3 units of MATH 75 in G.E. Foundation B4. See advisor for details.

Biology, B.S.

Degree Requirements

The Bachelor of Science in Biology is a 120-unit program. Of the total, 48 units are required to satisfy the university's General Education Program and 21 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 advisor for help in selecting courses appropriate to their interests and career objectives. An emphasis on cellular and molecular processes prepares students for the department's professional science Master of Biotechnology.

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 advisor should be consulted for specific information on graduate and professional school requirements.

Students should meet with an advisor a minimum of once a semester so the advisor can review the student's program and progress.

Major Requirements (42 units)

Biology Core (21 units)

The biology core is required of all majors (see Advising Notes.)

- BIOL 1A - Introductory Biology **Units: 4** (Area B2)
- BIOL 1B - Introductory Biology **Units: 3**
- BIOL 1BL - Introductory Biology Laboratory **Units: 1**
- BIOL 101 - General Ecology **Units: 3**
- BIOL 102 - Genetics **Units: 3**
- BIOL 103 - Cellular Biology **Units: 3**
- BIOL 105 - Evolution **Units: 3**
- BIOL 101L - General Ecology Lab **Units: 1**
- OR
- BIOL 104 - Genetics and Cell Biology Lab **Units: 1**

Other Major Requirements (21 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 - Microbiology **Units: 3**

AND

- BIOL 120L - Microbiology Lab **Units: 1**
- BIOL 122 - Nonvascular Plants **Units: 3**
- BIOL 123 - Phycology **Units: 4**
- BIOL 124 - Vascular Plants **Units: 4**
- BIOL 125 - Plant Taxonomy **Units: 4**
- BIOL 130 - Invertebrate Zoology **Units: 4**
- BIOL 131 - Parasitology **Units: 4**
- BIOL 132 - General Entomology **Units: 3**
- BIOL 133 - Natural History of Vertebrates **Units: 4**
- BIOL 134 - Ichthyology **Units: 3**
- BIOL 135 - Biology of Reptiles and Birds **Units: 4**
- BIOL 136 - Mammalogy **Units: 3**
- BIOL 140 - Plant Anatomy **Units: 3**
- BIOL 143 - Comparative Vertebrate Morphology **Units: 4**
- BIOL 178 - Systematic Biology and Macroevolution **Units: 4**

2. Physiology Courses:

- BIOL 155 - Developmental Biology **Units: 4**
- BIOL 156 - Plant Growth and Development **Units: 3**
- BIOL 157 - Immunology **Units: 3**
- AND**
- BIOL 157L - Immunology Laboratory **Units: 3**
- BIOL 160 - Microbial Physiology **Units: 4**
- BIOL 161 - Plant Physiology **Units: 4**
- BIOL 162 - Comparative Animal Physiology **Units: 3**
- AND**
- BIOL 162L - Comparative Animal Physiology Lab **Units: 1**

3. Third Laboratory Course:

- BIOL 120 - Microbiology **Units: 3**
- AND**
- BIOL 120L - Microbiology Lab **Units: 1**
- BIOL 122 - Nonvascular Plants **Units: 3**
- BIOL 123 - Phycology **Units: 4**
- BIOL 124 - Vascular Plants **Units: 4**
- BIOL 125 - Plant Taxonomy **Units: 4**
- BIOL 130 - Invertebrate Zoology **Units: 4**
- BIOL 131 - Parasitology **Units: 4**
- BIOL 132 - General Entomology **Units: 3**
- BIOL 133 - Natural History of Vertebrates **Units: 4**
- BIOL 134 - Ichthyology **Units: 3**
- BIOL 135 - Biology of Reptiles and Birds **Units: 4**
- BIOL 136 - Mammalogy **Units: 3**

- BIOL 140 - Plant Anatomy **Units: 3**
- BIOL 141 - Histology **Units: 4**
- BIOL 142 - Vertebrate Embryology **Units: 4**
- BIOL 143 - Comparative Vertebrate Morphology **Units: 4**
- BIOL 144 - Neuroanatomy **Units: 4**
- BIOL 151 - Bioinformatics **Units: 3**
- BIOL 152 - Experimental Molecular Genetics **Units: 4**
- BIOL 153 - Microbial Genetics **Units: 4**
- BIOL 155 - Developmental Biology **Units: 4**
- BIOL 156 - Plant Growth and Development **Units: 3**
- BIOL 157 - Immunology **Units: 3**
AND
- BIOL 157L - Immunology Laboratory **Units: 3**
- BIOL 160 - Microbial Physiology **Units: 4**
- BIOL 161 - Plant Physiology **Units: 4**
- BIOL 162 - Comparative Animal Physiology **Units: 3**
AND
- BIOL 162L - Comparative Animal Physiology Lab **Units: 1**
- BIOL 170 - Microbial Ecology **Units: 4**
- BIOL 171 - Terrestrial Ecology **Units: 4**
- BIOL 172 - Aquatic Ecology **Units: 4**
- BIOL 174 - Animal Behavior **Units: 3**
- BIOL 176 - Field Methods Ecology **Units: 3**
- BIOL 178 - Systematic Biology and Macroevolution **Units: 4**

Options for Completing the 21-unit Requirement:

You may take additional laboratory courses from line 3 above

- BIOL 67A - Human Anatomy & Physiology I **Units: 4**
OR
- BIOL 67B - Human Anatomy and Physiology II **Units: 4**
- BIOL 110 - Human Ecology **Units: 3**
- BIOL 111H - Honors Experimental Design & Writing **Units: 1**
- BIOL 112H - Honors Peer Instruction **Units: 1**
- BIOL 113H - Honors Colloquium **Units: 1**
- BIOL 119 - Molecular Virology **Units: 3**
- BIOL 121 - Medical Microbiology **Units: 3**
- BIOL 150 - Molecular Biology **Units: 3**
- BIOL 158 - The Biology of Cancer **Units: 3**
- BIOL 163 - Advanced Human Physiology **Units: 3**
- BIOL 164 - Hematology **Units: 3**
- BIOL 165 - Endocrinology **Units: 3**

- BIOL 166 - Neurophysiology **Units: 3**
- BIOL 173 - Marine Biology **Units: 3**
- BIOL 175 - Case Studies in Ecology **Units: 3**
- BIOL 180 - Biology Colloquium **Units: 1**
- BIOL 189T - Topics in Biology **Units: 1-4**
- BIOL 199H - Honors Thesis in Biology **Units: 3**
- up to 6 units of BIOL 190 - Independent Study **Units: 1-3**

Additional Requirements (30 units)

- CHEM 1A - General Chemistry 1A **Units: 3** (Area B1)
- CHEM 1AL - General Chemistry Laboratory 1A **Units: 2** (Area B1)
- CHEM 1B - General Chemistry 1B **Units: 3**
- CHEM 1BL - General Chemistry Laboratory 1B **Units: 2**
- CHEM 8 - Elementary Organic Chemistry **Units: 3**
OR
- CHEM 128A - Organic Chemistry **Units: 3**
- CHEM 129A - Organic Chemistry Laboratory **Units: 2**
- CHEM 150 - General Biochemistry **Units: 3** (see note 3)
OR
- CHEM 155A - Fundamentals of Biochemistry **Units: 3**
- MATH 70 - Calculus for Life Sciences **Units: 4** (Area B4)
OR
- MATH 75 - Calculus I **Units: 4** (Area B4)
- MATH 101 - Statistical Methods **Units: 4**
OR
- MATH 102 - Introduction to Biostatistics **Units: 4**
- PHYS 2A - General Physics **Units: 4**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements .

Total: 120 Units*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. (See advising note 1)

Advising Notes

1. The total of 120 units assumes biology majors will maximize the 10 units of General Education requirements that also may be applied to major and additional required courses as follows: 4 units of CHEM 1A/CHEM 1AL in G.E. Breadth B1; 3 units of BIOL 1A in G.E. Breadth B2; and 3 units of MATH 70 or MATH 75 in G.E. Foundation B4. Consult your major academic advisor for details.
2. B.S. in Biology majors who have taken introductory sequences other than BIOL 1A and BIOL 1B/BIOL 1BL must consult with their faculty advisor or department chair for equivalency evaluation prior to beginning their upper-division coursework.
3. Please note that CHEM 128B is a prerequisite for CHEM 155A.
4. Pre-medical, pre-pharmacy, pre-veterinary, and preclinical laboratory science students are required to take CHEM 128B in addition to CHEM 128A, and PHYS 2B in addition to PHYS 2A. Pre-pharmacy students are required to take, and most pre-medical and pre-veterinary students should take, CHEM 129B. Preclinical laboratory sciences students are required to take CHEM 105. Some pre-pharmacy and pre-medical students should take MATH 76.
5. CR/NC grading is not permitted in the Biology major.
6. General Education, MI, and elective requirements may be used toward a double major or minor (See **Degree Requirements**). Consult the appropriate department chair, program coordinator, or faculty advisor for additional information.

Biomedical Physics, B.S.

Degree Requirements

The B.S. in Biomedical Physics is an interdisciplinary program developed to provide students pursuing careers in Medical Physics and Health Physics the necessary background in Physics, Mathematics, and Biology.

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 Requirements (48 units)

Physics Core (20 units)

- PHYS 4A - Mechanics and Wave Motion **Units: 3**
- PHYS 4AL - Laboratory in Mechanics and Wave Motion **Units: 1**
- PHYS 4B - Electricity, Magnetism, and Heat **Units: 3**
- PHYS 4BL - Laboratory in Electricity, Magnetism, and Heat **Units: 1**
- PHYS 4C - Light and Modern Physics **Units: 3**
- PHYS 102 - Modern Physics **Units: 3**
- PHYS 106 - Introduction to Computer Simulations in Physics **Units: 3**
- PHYS 115 - Quantum Mechanics **Units: 3**

Biology Core (12 units)

- BIOL 1A - Introductory Biology **Units: 4**
- BIOL 67A - Human Anatomy & Physiology I **Units: 4** (Area B2)
- BIOL 144 - Neuroanatomy **Units: 4**

Upper-Division Courses (16 units)

- PHYS 135 - Introduction to Magnetic Resonance Imaging and Spectroscopy **Units: 3**
- PHYS 136 - Radiation Physics **Units: 3**
- PHYS 137 - Radiation Measurements Laboratory **Units: 3**
- PHYS 155 - Seminar in Biomedical Physics/Neurosciences **Units: 1**
- PHYS 156 - Diagnostic X-Ray Imaging Physics **Units: 3**

One of the Two Courses:

- PHYS 157 - Nuclear Medicine Physics **Units: 3**
- PHYS 158 - Radiation Oncology Physics **Units: 3**

Additional Requirements (23 units)

- MATH 75 - Calculus I **Units: 4** (Area B4)
- MATH 76 - Calculus II **Units: 4**
- MATH 77 - Calculus III **Units: 4**
- MATH 81 - Elementary Differential Equations with Linear Algebra **Units: 3**
- CHEM 1A - General Chemistry 1A **Units: 3** (Area B1)
- CHEM 1AL - General Chemistry Laboratory 1A **Units: 2** (Area B1)
- ECE 71 - Introduction to Computational Programming **Units: 3**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120 Units*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. These courses included CHEM 1A and CHEM 1AL (Area B1), BIOL 1A (Area B2), and MATH 75 (Area B4). See advisor for details.

Advising Note

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).

Business Administration - Accelerated Option, B.S. - (Continuing & Global Education)

Accelerated Bachelor's Degree in Business Administration (ABBA) Requirements

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 and Visalia 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. Due to the nature of this program, seating is limited. The highlights of the program are listed below:

- 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

To learn more about the ABBA program, please visit <https://craig.fresnostate.edu/abba/index.html>

Business Administration - Accountancy Option, B.S.

Degree Requirements

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.

Major Requirements (73 units)

Demonstration of Computer Competency

Complete IS 52 and IS 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 (22 units)

- ACCT 4A - Financial Accounting Principles and Systems **Units: 3**
- ACCT 4B - Managerial Accounting Principles and Systems **Units: 3**
- BA 18 - Business and the Legal Environment **Units: 4**
- DS 71 - Quantitative Analysis **Units: 3** (Area B4)
- DS 73 - Statistical Analysis I **Units: 3**
- ECON 40 - Principles of Microeconomics **Units: 3**
OR
- AGBS 1 - Introductory Agricultural Economics **Units: 3**

- ECON 50 - Principles of Macroeconomics **Units: 3**
(Area D2)

Upper-Division Core Requirements (24 units)

- DS 123 - Statistical Analysis II **Units: 3**
- FIN 120 - Principles of Finance **Units: 4**
- IS 130 - Information Systems **Units: 3**
- MGT 110 - Administration and Organizational Behavior **Units: 6**
- MGT 124 - Production/Operations Management **Units: 4**
- MKTG 100S - Marketing Concepts **Units: 4** (Area MI)

Accountancy Option Requirements (24 units)

- ACCT 120A - Intermediate Accounting I **Units: 4**
- ACCT 120B - Intermediate Accounting II **Units: 4**

Select Four Courses From the Following: (16 units)

- ACCT 132 - Cost Accounting **Units: 4**
- ACCT 144 - Tax Accounting and Planning **Units: 4**
- ACCT 145 - Federal Income Taxation of Entities and the Federal Uniform Estate and Gift Tax **Units: 4**
- ACCT 146S - Accounting Information Systems and Controls SL **Units: 4**
- ACCT 148 - Accounting for Governmental and Nonprofit Organizations **Units: 4**
- ACCT 162 - Auditing **Units: 4**
- ACCT 165 - International Accounting **Units: 4**
- ACCT 167 - Advanced Accounting Problems **Units: 4**
- ACCT 169 - Forensic Accounting **Units: 4**

Integrative Course Requirement (3 units)

- MGT 187 - Seminar in Strategic Management **Units: 3**
OR
- ACCT 187 - Accounting Ethics and Professional Responsibilities **Units: 3 ***

Grade Requirement

A grade of C or better must be earned for each course used to satisfy the requirements for the major.

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements .

Total: 120 Units*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. These courses include BA 105W to fulfill the Upper-division Writing requirement, MKTG 100S to fulfill the MI Requirement, DS 71 for GE Area B4, and ECON 50 for GE Area D2. **Note:** Business Administration majors are exempt from the third GE area C1/C2 requirement. See advisor for details.

Business Administration - Computer Information Systems Option, B.S.

Degree Requirements

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 23-25 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.

Major Requirements (73 units)

Demonstration of Computer Competency

Complete IS 52 and IS 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 (22 units)

- ACCT 4A - Financial Accounting Principles and Systems **Units: 3**
- ACCT 4B - Managerial Accounting Principles and Systems **Units: 3**
- BA 18 - Business and the Legal Environment **Units: 4**
- DS 71 - Quantitative Analysis **Units: 3** (Area B4)
- DS 73 - Statistical Analysis I **Units: 3**
- ECON 40 - Principles of Microeconomics **Units: 3**
OR
- AGBS 1 - Introductory Agricultural Economics **Units: 3**
- ECON 50 - Principles of Macroeconomics **Units: 3**
(Area D2)

Upper-Division Core Requirements (24 units)

- DS 123 - Statistical Analysis II **Units: 3**
- FIN 120 - Principles of Finance **Units: 4**
- IS 130 - Information Systems **Units: 3**
- MGT 110 - Administration and Organizational Behavior **Units: 6**
- MGT 124 - Production/Operations Management **Units: 4**
- MKTG 100S - Marketing Concepts **Units: 4** (Area MI)

Computer Information Systems Option Requirements (24 units)

- IS 51 - Programming Fundamentals **Units: 3**
- IS 158 - Database Design and SQL **Units: 3 ***
- IS 166 - Information Systems, Analysis and Design **Units: 3 ***
- IS 181 - Computer Networks Management **Units: 3**

Select 12 Units From the Following Courses:

- IS 106 - Client-Side Software Architecture **Units: 3**
- IS 141 - Cyber-Security **Units: 3**
- IS 153 - Enterprise Resource Planning Systems **Units: 3**
- IS 156T - Topics in Emerging Information Technologies **Units: 3**
- IS 160 - Artificial Intelligence in Business **Units: 3**
- IS 170 - Machine Learning Applications **Units: 3**
- IS 182 - Advanced Network Design and Management **Units: 3**

- IS 183 - Web Development and Mobile Design **Units: 3**
- IS 186 - Project Management **Units: 3**
- IS 189T - Topics in Information Systems **Units: 1-3**
- IS 190 - Independent Study **Units: 1-3**
- IS 195I - Internship **Units: 3**
- Any approved upper-division IS courses **Units: 9**

Integrative Course Requirement (3 units)

- IS 187 - IS Practicum **Units: 3 ***

Grade Requirement

A grade of C or better must be earned for each course used to satisfy the requirements for the major.

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total: 120 Units**

*This is a three-semester sequence of classes that cannot be taken concurrently or out of order.

General Education, MI, and Upper-division Writing courses can be double counted with major requirements. These courses include BA 105W to fulfill the Upper-division Writing requirement, MKTG 100S to fulfill the MI Requirement, DS 71 for GE Area B4, and ECON 50 for GE Area D2. **Note: Business Administration majors are exempt from the third GE area C1/C2 requirement. See advisor for details.

Business Administration - Data Analytics Option, B.S.

Degree Requirements

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 23-25 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.

Major Requirements (74 units)

Demonstration of Computer Competency

Complete IS 52 and IS 52L or equivalent courses with a grade of "C" or better or achieve a passing score on the CSB computer competency waiver examination. Please contact the CSB Advising office at (559) 278-4943 or csbadvising@csufresno.edu for information about the computer competency waiver exam.

Pre-Business Requirements (22 units)

- ACCT 4A - Financial Accounting Principles and Systems **Units: 3**
- ACCT 4B - Managerial Accounting Principles and Systems **Units: 3**
- BA 18 - Business and the Legal Environment **Units: 4**
- DS 71 - Quantitative Analysis **Units: 3** (Area B4)
- DS 73 - Statistical Analysis I **Units: 3**
- ECON 40 - Principles of Microeconomics **Units: 3**
OR
- AGBS 1 - Introductory Agricultural Economics **Units: 3**
- ECON 50 - Principles of Macroeconomics **Units: 3**
(Area D2)

Upper-Division Core Requirements (24 units)

- DS 123 - Statistical Analysis II **Units: 3**
- FIN 120 - Principles of Finance **Units: 4**
- IS 130 - Information Systems **Units: 3**
- MGT 110 - Administration and Organizational Behavior **Units: 6**
- MGT 124 - Production/Operations Management **Units: 4**
- MKTG 100S - Marketing Concepts **Units: 4** (Area MI)

Data Analytics Option Requirements (25 units)

- DS 133 - Business Intelligence with Advanced Spreadsheet **Units: 3**
- DS 135 - Data Analytics **Units: 3**
- DS 137 - Machine Learning **Units: 3**
- ECON 123 - Introduction to Econometrics **Units: 3**
- MKTG 114 - Principles of Logistics and Supply Chain **Units: 4**

Select 9 Units From the Following Courses:

- ACCT 146S - Accounting Information Systems and Controls SL **Units: 4**
- DS 190 - Independent Study **Units: 1-3**
- DS 195I - Internship **Units: 3**
- FIN 123 - Business Forecasting **Units: 3**
- IS 140 - Geographic Information Systems (GIS) for Business **Units: 3**
- IS 153 - Enterprise Resource Planning Systems **Units: 3**

Integrative Course Requirement (3 units)

- MGT 187 - Seminar in Strategic Management **Units: 3**

Grade Requirement

A grade of C or better must be earned for each course used to satisfy the requirements for the major.

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total: 120 Units*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. These courses include BA 105W to fulfill the Upper-division Writing requirement, MKTG

100S to fulfill the MI Requirement, DS 71 for GE Area B4, and ECON 50 for GE Area D2. **Note:** Business Administration majors are exempt from the third GE area C1/C2 requirement. See advisor for details

Business Administration - Entrepreneurship Option, B.S.

Degree Requirements

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 23-25 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.

Major Requirements (73 units)

Demonstration of Computer Competency

Complete IS 52 and IS 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 (22 units)

- ACCT 4A - Financial Accounting Principles and Systems **Units: 3**
- ACCT 4B - Managerial Accounting Principles and Systems **Units: 3**
- BA 18 - Business and the Legal Environment **Units: 4**
- DS 71 - Quantitative Analysis **Units: 3** (Area B4)
- DS 73 - Statistical Analysis I **Units: 3**
- ECON 40 - Principles of Microeconomics **Units: 3**
OR
- AGBS 1 - Introductory Agricultural Economics **Units: 3**

- ECON 50 - Principles of Macroeconomics **Units: 3** (Area D2)

Upper-Division Core Requirements (24 units)

- DS 123 - Statistical Analysis II **Units: 3**
- FIN 120 - Principles of Finance **Units: 4**
- IS 130 - Information Systems **Units: 3**
- MGT 110 - Administration and Organizational Behavior **Units: 6**
- MGT 124 - Production/Operations Management **Units: 4**
- MKTG 100S - Marketing Concepts **Units: 4** (Area MI)

Option Requirements (24 units)

- ENTR 81E - Introduction to Entrepreneurship **Units: 3**
- ENTR 151E - Opportunity Assessment **Units: 3**
- ENTR 153E - Business Plan Model **Units: 3**
- ENTR 157E - New Venture Laboratory **Units: 3**
- MGT 127 - Contemporary Leadership **Units: 3**

Select Three Courses From the Following: (9 units)

- BA 152E - Law for Entrepreneurs **Units: 3**
- ENTR 155E - Managing the New Venture **Units: 3**
- ENTR 161E - Urban Entrepreneurship **Units: 3**
- ENTR 163E - Social Entrepreneurship **Units: 3**
- ENTR 165E - Corporate Entrepreneurship **Units: 3**
- ENTR 167E - Franchising **Units: 3**
- ENTR 169E - Family Business Management **Units: 3**
- ENTR 195IE - Internship **Units: 3**
- FIN 131E - Entrepreneurial Finance **Units: 3**

Integrative Course Requirement (3 units)

- MGT 187 - Seminar in Strategic Management **Units: 3**

Grade Requirement

A grade of C or better must be earned for each course used to satisfy the requirements for the major.

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)

- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total: 120 Units*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. These courses include BA 105W to fulfill the Upper-division Writing requirement, MKTG 100S to fulfill the MI Requirement, DS 71 for GE Area B4, and ECON 50 for GE Area D2. **Note:** Business Administration majors are exempt from the third GE area C1/C2 requirement. See advisor for details.

Business Administration - Finance Option, B.S.

Degree Requirements

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 23-25 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.

Major Requirements (73 units)

Demonstration of Computer Competency

Complete IS 52 and IS 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 (22 units)

- ACCT 4A - Financial Accounting Principles and Systems **Units: 3**
- ACCT 4B - Managerial Accounting Principles and Systems **Units: 3**
- BA 18 - Business and the Legal Environment **Units: 4**
- DS 71 - Quantitative Analysis **Units: 3** (Area B4)
- DS 73 - Statistical Analysis I **Units: 3**
- ECON 40 - Principles of Microeconomics **Units: 3**
OR
- AGBS 1 - Introductory Agricultural Economics **Units: 3**
- ECON 50 - Principles of Macroeconomics **Units: 3** (Area D2)

Upper-Division Core Requirements (24 units)

- DS 123 - Statistical Analysis II **Units: 3**
- FIN 120 - Principles of Finance **Units: 4**
- IS 130 - Information Systems **Units: 3**
- MGT 110 - Administration and Organizational Behavior **Units: 6**
- MGT 124 - Production/Operations Management **Units: 4**
- MKTG 100S - Marketing Concepts **Units: 4** (Area MI)

Option Requirements (24 units)

- FIN 121 - Intermediate Financial Management **Units: 3**
- FIN 128 - Investments **Units: 3**
- FIN 178 - International Finance **Units: 3**

Select at Least 15 Units From the Following:

- FIN 122 - Financial Institutions and Financial Markets **Units: 3**
- FIN 123 - Business Forecasting **Units: 3**
- FIN 129A - Student-Managed Investment Funds I **Units: 3**
- FIN 129B - Student-Managed Investment Funds II **Units: 3**
- FIN 131E - Entrepreneurial Finance **Units: 3**
- FIN 138 - Derivatives **Units: 3**
- FIN 147 - Retirement Planning **Units: 3**
- FIN 150 - Financial Planning **Units: 3**
- FIN 183 - Real Estate Finance **Units: 3**
- FIN 186 - Business and Real Estate Economics **Units: 3**
- FIN 189T - Topics in Finance **Units: 3**
- FIN 195I - Internship **Units: 3**
- BA 150 - Law and Business Activity **Units: 3**
- ACCT 120A - Intermediate Accounting I **Units: 4**

Integrative Course Requirement (3 units)

- FIN 139 - Financial Policy and Strategy **Units: 3**

Grade Requirement

A grade of C or better must be earned for each course used to satisfy the requirements for the major.

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total: 120 Units*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. These courses include BA 105W to fulfill the Upper-division Writing requirement, MKTG 100S to fulfill the MI Requirement, DS 71 for GE Area B4, and ECON 50 for GE Area D2. **Note:** Business Administration majors are exempt from the third GE area C1/C2 requirement. See advisor for details.

Business Administration - Human Resource Management Option, B.S.

Degree Requirements

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 23-25 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.

Major Requirements (73 units)

Demonstration of Computer Competency

Complete IS 52 and IS 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 (22 units)

- ACCT 4A - Financial Accounting Principles and Systems **Units: 3**
- ACCT 4B - Managerial Accounting Principles and Systems **Units: 3**
- BA 18 - Business and the Legal Environment **Units: 4**
- DS 71 - Quantitative Analysis **Units: 3** (Area B4)
- DS 73 - Statistical Analysis I **Units: 3**
- ECON 40 - Principles of Microeconomics **Units: 3**
OR
- AGBS 1 - Introductory Agricultural Economics **Units: 3**
- ECON 50 - Principles of Macroeconomics **Units: 3**
(Area D2)

Upper-Division Core Requirements (24 units)

- DS 123 - Statistical Analysis II **Units: 3**
- FIN 120 - Principles of Finance **Units: 4**
- IS 130 - Information Systems **Units: 3**
- MGT 110 - Administration and Organizational Behavior **Units: 6**
- MGT 124 - Production/Operations Management **Units: 4**
- MKTG 100S - Marketing Concepts **Units: 4**

Option Requirements (24 units)

- HRM 150 - Administration of Personnel **Units: 3**
- HRM 153 - The Staffing of Organizations **Units: 3**
- HRM 154 - Compensation Systems and Performance Management **Units: 3**
- HRM 157 - Legal Aspects of Human Resource Management **Units: 3**
- MGT 127 - Contemporary Leadership **Units: 3**

Select From the Following Areas (9 units)

(3-9 units):

- HRM 152 - Labor Relations and Collective Bargaining **Units: 3**
- HRM 155 - Training and Development **Units: 3**
- HRM 159 - Seminar in Human Resource Management **Units: 3**
- HRM 189T - Topics in Human Resource Management **Units: 1-3**
- HRM 190 - Independent Study **Units: 1-3**
- HRM 195I - Internship **Units: 3**
- PSYCH 176 - Industrial Psychology **Units: 3**

(0-6 units):

- MGT 131 - International Management **Units: 3**
- MGT 133S - Managing Nonprofit and Socially Responsible, Sustainable Organizations **Units: 3**
- MGT 158 - Project Management **Units: 3**
- MGT 180 - Seminar in Management Theory and Organization Design **Units: 3**
- MGT 182 - Seminar in Applied Conflict Management Techniques **Units: 3**
- MGT 189T - Topics in Management **Units: 1-3**

(0-3 units):

- ANTH 120 - Race and Ethnic Relations in the U.S. **Units: 3**
- PH 143 - Occupational Safety **Units: 3**
- PH 145 - Occupational and Environmental Systems Management **Units: 3**
- PLSI 185 - Public Personnel Management **Units: 3**
- PSYCH 144 - Research Designs and Experimental Methods **Units: 5**
- PSYCH 149 - Psychological Testing **Units: 4**

Integrative Course Requirement (3 units)

- MGT 187 - Seminar in Strategic Management **Units: 3**

Grade Requirement

A grade of C or better must be earned for each course used to satisfy the requirements for the major.

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)

- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total: 120 Units*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. These courses include BA 105W to fulfill the Upper-division Writing requirement, MKTG 100S to fulfill the MI Requirement, DS 71 for GE Area B4, and ECON 50 for GE Area D2. **Note:** Business Administration majors are exempt from the third GE area C1/C2 requirement. See advisor for details.

Business Administration - International Business Option, B.S.

Degree Requirements

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 23-25 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.

Major Requirements (74 units)

Demonstration of Computer Competency

Complete IS 52 and IS 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 (22 units)

- ACCT 4A - Financial Accounting Principles and Systems **Units: 3**
- ACCT 4B - Managerial Accounting Principles and Systems **Units: 3**
- BA 18 - Business and the Legal Environment **Units: 4**
- DS 71 - Quantitative Analysis **Units: 3** (Area B4)
- DS 73 - Statistical Analysis I **Units: 3**
- ECON 40 - Principles of Microeconomics **Units: 3**
OR
- AGBS 1 - Introductory Agricultural Economics **Units: 3**
- ECON 50 - Principles of Macroeconomics **Units: 3**
(Area D2)

Upper-Division Core Requirements (24 units)

- DS 123 - Statistical Analysis II **Units: 3**
- FIN 120 - Principles of Finance **Units: 4**
- IS 130 - Information Systems **Units: 3**
- MGT 110 - Administration and Organizational Behavior **Units: 6**
- MGT 124 - Production/Operations Management **Units: 4**
- MKTG 100S - Marketing Concepts **Units: 4** (Area MI)

Option Requirements (24-25 units)

- BA 174 - Introduction to International Business **Units: 3**
- BA 175 - Tools and Techniques of International Business **Units: 3**
- BA 176 - The International Business Environment **Units: 3**
- BA 177 - Legal Environment of World Commerce **Units: 3**
- FIN 178 - International Finance **Units: 3**
- MKTG 140 - Global Marketing **Units: 4**
- MGT 131 - International Management **Units: 3**

Select One Upper-Division Course From the Following (3 units):

- AFRS 164 - African Cultural Perspectives **Units: 3**
- ANTH 123 - Peoples and Cultures of Southeast Asia **Units: 3**
- ANTH 125 - Tradition and Change in China and Japan **Units: 3** (Same as HUM 140)
- CLAS 170 - Latin American Studies **Units: 3**
- COMM 164 - Intercultural Communication **Units: 3**
- PHIL 131 - Comparative Religion **Units: 3**
- PLSI 120 - International Politics **Units: 3**

- WGSS 135 - Women In Cross-Cultural Perspective **Units: 3**
- *or* any upper-division course offered through the Craig School of Business, including upper-division economics courses as well as BA 195I **Units: 3**

Integrative Course Requirement (3 units)

- MGT 187 - Seminar in Strategic Management **Units: 3**

Grade Requirement

A grade of C or better must be earned for each course used to satisfy the requirements for the major.

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total: 120 Units*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. These courses include BA 105W to fulfill the Upper-division Writing requirement, MKTG 100S to fulfill the MI Requirement, DS 71 for GE Area B4, and ECON 50 for GE Area D2. **Note:** Business Administration majors are exempt from the third GE area C1/C2 requirement. See advisor for details.

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.

Degree Requirements

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 or seven upper-division courses; (d) option requirements of 23-25 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.

Major Requirements (73-74 units)

Demonstration of Computer Competency

Complete IS 52 and IS 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 (22 units)

- ACCT 4A - Financial Accounting Principles and Systems **Units: 3**
- ACCT 4B - Managerial Accounting Principles and Systems **Units: 3**
- BA 18 - Business and the Legal Environment **Units: 4**
- DS 71 - Quantitative Analysis **Units: 3** (Area B4)
- DS 73 - Statistical Analysis I **Units: 3**
- ECON 40 - Principles of Microeconomics **Units: 3**
OR
- AGBS 1 - Introductory Agricultural Economics **Units: 3**
- ECON 50 - Principles of Macroeconomics **Units: 3**
(Area D2)

Upper-Division Core Requirements (24 units)

- DS 123 - Statistical Analysis II **Units: 3**
- FIN 120 - Principles of Finance **Units: 4**
- IS 130 - Information Systems **Units: 3**
- MGT 110 - Administration and Organizational Behavior **Units: 6**

- MGT 124 - Production/Operations Management **Units: 4**
- MKTG 100S - Marketing Concepts **Units: 4** (Area MI)

Option Requirements (23-24 units)

Take the following courses:

- MKTG 101 - Marketing Research **Units: 4**
- MKTG 114 - Principles of Logistics and Supply Chain **Units: 4**
- MKTG 115 - Global Logistics and Supply Chain Strategies **Units: 4**
- MKTG 160 - Professional Selling & Sales Force Management **Units: 4**

Select a Minimum of 7-8 Units From the Following:

- MKTG 126 - Purchasing and Materials Management **Units: 4**
- MKTG 190 - Independent Study **Units: 1-3**
- MKTG 195I - Internship **Units: 3**
- MGT 158 - Project Management **Units: 3**
- IS 140 - Geographic Information Systems (GIS) for Business **Units: 3**

Integrative Course Requirement (4 units)

- MKTG 188 - Strategic Planning in Marketing **Units: 4**

Grade Requirement

A grade of C or better must be earned for each course used to satisfy the requirements for the major.

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total: 120 Units*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. These courses include BA 105W to fulfill the Upper-division Writing requirement, MKTG 100S to fulfill the MI Requirement, DS 71 for GE Area B4, and ECON 50 for GE Area D2. **Note:** Business Administration majors are exempt from the third GE area C1/C2 requirement. See advisor for details.

Business Administration - Management Option, B.S.

Degree Requirements

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 23-25 units in an area of specialization; (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.

Major Requirements (73 units)

Demonstration of Computer Competency

Complete IS 52 and IS 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 (22 units)

- ACCT 4A - Financial Accounting Principles and Systems **Units: 3**
- ACCT 4B - Managerial Accounting Principles and Systems **Units: 3**
- BA 18 - Business and the Legal Environment **Units: 4**
- DS 71 - Quantitative Analysis **Units: 3** (Area B4)
- DS 73 - Statistical Analysis I **Units: 3**
- ECON 40 - Principles of Microeconomics **Units: 3**
OR
- AGBS 1 - Introductory Agricultural Economics **Units: 3**

- ECON 50 - Principles of Macroeconomics **Units: 3**
(Area D2)

Upper-Division Core Requirements (24 units)

- DS 123 - Statistical Analysis II **Units: 3**
- FIN 120 - Principles of Finance **Units: 4**
- IS 130 - Information Systems **Units: 3**
- MGT 110 - Administration and Organizational Behavior **Units: 6**
- MGT 124 - Production/Operations Management **Units: 4**
- MKTG 100S - Marketing Concepts **Units: 4** (Area MI)

Option Requirements (24 units)

- MGT 127 - Contemporary Leadership **Units: 3**
- MGT 131 - International Management **Units: 3**
- MGT 182 - Seminar in Applied Conflict Management Techniques **Units: 3**
- HRM 150 - Administration of Personnel **Units: 3**

A Minimum of 12 Units Selected From

- ENTR 81E - Introduction to Entrepreneurship **Units: 3**
- ENTR 151E - Opportunity Assessment **Units: 3**
- ENTR 153E - Business Plan Model **Units: 3**
- ENTR 157E - New Venture Laboratory **Units: 3**
- ENTR 163E - Social Entrepreneurship **Units: 3**
- ENTR 165E - Corporate Entrepreneurship **Units: 3**
- HRM 152 - Labor Relations and Collective Bargaining **Units: 3**
- HRM 153 - The Staffing of Organizations **Units: 3**
- HRM 154 - Compensation Systems and Performance Management **Units: 3**
- HRM 155 - Training and Development **Units: 3**
- HRM 157 - Legal Aspects of Human Resource Management **Units: 3**
- HRM 190 - Independent Study **Units: 1-3**
- MGT 133S - Managing Nonprofit and Socially Responsible, Sustainable Organizations **Units: 3**
- MGT 158 - Project Management **Units: 3**
- MGT 180 - Seminar in Management Theory and Organization Design **Units: 3**
- MGT 190 - Independent Study **Units: 1-3**
- MGT 195I - Internship **Units: 3**

Integrative Course Requirement (3 units)

- MGT 187 - Seminar in Strategic Management **Units: 3**

Grade Requirement

A grade of C or better must be earned for each course used to satisfy the requirements for the major.

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total: 120 Units*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. These courses include BA 105W to fulfill the Upper-division Writing requirement, MKTG 100S to fulfill the MI Requirement, DS 71 for GE Area B4, and ECON 50 for GE Area D2. **Note:** Business Administration majors are exempt from the third GE area C1/C2 requirement. See advisor for details.

Business Administration - Marketing Option, B.S.

Degree Requirements

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 or seven upper-division courses, (d) option requirements of 23-25 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.

Major Requirements (73-74 units)

Demonstration of Computer Competency

Complete IS 52 and IS 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 (22 units)

- ACCT 4A - Financial Accounting Principles and Systems **Units: 3**
- ACCT 4B - Managerial Accounting Principles and Systems **Units: 3**
- BA 18 - Business and the Legal Environment **Units: 4**
- DS 71 - Quantitative Analysis **Units: 3** (Area B4)
- DS 73 - Statistical Analysis I **Units: 3**
- ECON 40 - Principles of Microeconomics **Units: 3**
OR
- AGBS 1 - Introductory Agricultural Economics **Units: 3**
- ECON 50 - Principles of Macroeconomics **Units: 3** (Area D2)

Upper-Division Core Requirements (24 units)

- DS 123 - Statistical Analysis II **Units: 3**
- FIN 120 - Principles of Finance **Units: 4**
- IS 130 - Information Systems **Units: 3**
- MGT 110 - Administration and Organizational Behavior **Units: 6**
- MGT 124 - Production/Operations Management **Units: 4**
- MKTG 100S - Marketing Concepts **Units: 4** (Area MI)

Option Requirements (23-24 units)

- MKTG 101 - Marketing Research **Units: 4**
- MKTG 110 - Consumer Behavior **Units: 4**
- MKTG 132 - Promotion Mix: Principles and Practices **Units: 4**
- MKTG 160 - Professional Selling & Sales Force Management **Units: 4**

Select 7 or 8 Units From the Following:

- MKTG 114 - Principles of Logistics and Supply Chain **Units: 4**

- MKTG 115 - Global Logistics and Supply Chain Strategies **Units: 4**
- MKTG 126 - Purchasing and Materials Management **Units: 4**
- MKTG 130 - Retail Managing and Merchandising **Units: 4**
- MKTG 134 - Entrepreneurial Marketing **Units: 4**
- MKTG 140 - Global Marketing **Units: 4**
- MKTG 144 - Services Marketing **Units: 4**
- MKTG 150 - Sports Marketing **Units: 3**
- MKTG 153 - E-Marketing Technologies and Social Media **Units: 4**
- MKTG 161 - Sports Licensing, Sponsorship, and Promotion **Units: 4**
- MKTG 162 - Healthcare Marketing **Units: 2**
- MKTG 163 - Political Marketing **Units: 2**
- MKTG 164 - Profitability and Pricing **Units: 2**
- MKTG 165 - Marketing to the Base of the Pyramid **Units: 2**
- MKTG 166 - Principles and Practices of Branding **Units: 2**
- MKTG 167 - Environmental Sustainability & Marketing **Units: 2**
- MKTG 189T - Topics in Marketing **Units: 1-3**
- MKTG 190 - Independent Study **Units: 1-3**
- MKTG 195I - Internship **Units: 3**

Integrative Course Requirement (4 units)

- MKTG 188 - Strategic Planning in Marketing **Units: 4**

Grade Requirement

A grade of C or better must be earned for each course used to satisfy the requirements for the major.

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total: 120 Units*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. These courses include BA 105W to fulfill the Upper-division Writing requirement, MKTG 100S to fulfill the MI Requirement, DS 71 for GE Area B4, and ECON 50 for GE Area D2. **Note:** Business Administration majors are exempt from the third GE area C1/C2 requirement. See advisor for details.

Business Administration - Real Estate & Urban Land Economics Option, B.S.

Degree Requirements

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 23-25 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

Major Requirements (73 units)

Demonstration of Computer Competency

Complete IS 52 and IS 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 (22 units)

- ACCT 4A - Financial Accounting Principles and Systems **Units: 3**
 - ACCT 4B - Managerial Accounting Principles and Systems **Units: 3**
 - BA 18 - Business and the Legal Environment **Units: 4**
 - DS 71 - Quantitative Analysis **Units: 3** (Area B4)
 - DS 73 - Statistical Analysis I **Units: 3**
 - ECON 40 - Principles of Microeconomics **Units: 3**
- OR**

- AGBS 1 - Introductory Agricultural Economics **Units: 3**
- ECON 50 - Principles of Macroeconomics **Units: 3**
(Area D2)

Upper-Division Core Requirements (24 units)

- DS 123 - Statistical Analysis II **Units: 3**
- FIN 120 - Principles of Finance **Units: 4**
- IS 130 - Information Systems **Units: 3**
- MGT 110 - Administration and Organizational Behavior **Units: 6**
- MGT 124 - Production/Operations Management **Units: 4**
- MKTG 100S - Marketing Concepts **Units: 4** (Area MI)

Option Requirements (24 units)

- BA 154 - Real Estate Law **Units: 3**
- FIN 122 - Financial Institutions and Financial Markets **Units: 3**
- FIN 180 - Real Estate Principles **Units: 3**
- FIN 181 - Real Estate Appraisal **Units: 3**
- FIN 182 - Real Estate Practices **Units: 3**
- FIN 183 - Real Estate Finance **Units: 3**
- FIN 186 - Business and Real Estate Economics **Units: 3**

Select At Least 3 Units From the Following:

- FIN 123 - Business Forecasting **Units: 3**
- FIN 185 - Housing Market Analysis **Units: 3**
- FIN 195I - Internship **Units: 3**

Integrative Course Requirement (3 units)

- MGT 187 - Seminar in Strategic Management **Units: 3**

Grade Requirement

A grade of C or better must be earned for each course used to satisfy the requirements for the major.

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)

- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total: 120 Units*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. These courses include BA 105W to fulfill the Upper-division Writing requirement, MKTG 100S to fulfill the MI Requirement, DS 71 for GE Area B4, and ECON 50 for GE Area D2. **Note:** Business Administration majors are exempt from the third GE area C1/C2 requirement. See advisor for details.

Business Administration - Special Option, B.S.

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.

Degree Requirements

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 or seven upper-division courses, (d) option requirements of 23-25 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.

Major Requirements (74 units)

Demonstration of Computer Competency

Complete IS 52 and IS 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 (22 units)

- ACCT 4A - Financial Accounting Principles and Systems **Units: 3**
- ACCT 4B - Managerial Accounting Principles and Systems **Units: 3**
- BA 18 - Business and the Legal Environment **Units: 4**
- DS 71 - Quantitative Analysis **Units: 3** (Area B4)
- DS 73 - Statistical Analysis I **Units: 3**
- ECON 40 - Principles of Microeconomics **Units: 3**
OR
- AGBS 1 - Introductory Agricultural Economics **Units: 3**
- ECON 50 - Principles of Macroeconomics **Units: 3**
(Area D2)

Upper-Division Core Requirements (24 units)

- DS 123 - Statistical Analysis II **Units: 3**
- FIN 120 - Principles of Finance **Units: 4**
- IS 130 - Information Systems **Units: 3**
- MGT 110 - Administration and Organizational Behavior **Units: 6**
- MGT 124 - Production/Operations Management **Units: 4**
- MKTG 100S - Marketing Concepts **Units: 4** (Area MI)

Option Requirements (24 units)

- MKTG 101 - Marketing Research **Units: 4**
- MKTG 110 - Consumer Behavior **Units: 4**
- MKTG 150 - Sports Marketing **Units: 3**
- MKTG 160 - Professional Selling & Sales Force Management **Units: 4**
and
- MKTG 161 - Sports Licensing, Sponsorship, and Promotion **Units: 4**

Select At Least 4 Units From the Following: (4 units)

- BA 152E - Law for Entrepreneurs **Units: 3**
- BA 179 - Legal & Ethical Aspects of Sports Marketing **Units: 3**
- ECON 144 - Economics of Sports **Units: 3**
- RA 150 - Sports and Entertainment Facility Management **Units: 3**
or
- RA 152 - Sports and Entertainment Facility Booking, Promotion and Box Office Operations **Units: 3**
- MKTG 132 - Promotion Mix: Principles and Practices **Units: 4**
- MKTG 140 - Global Marketing **Units: 4**
- MKTG 190 - Independent Study **Units: 1-3**
- MKTG 195I - Internship **Units: 3**

Integrative Course Requirement (4 units)

- MKTG 188 - Strategic Planning in Marketing **Units: 4**

Grade Requirement

A grade of C or better must be earned for each course used to satisfy the requirements for the major.

Other Requirements (9 units)

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total: 120 Units*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. These courses include BA 105W to fulfill the Upper-division Writing requirement, MKTG 100S to fulfill the MI Requirement, DS 71 for GE Area B4, and ECON 50 for GE Area D2. **Note:** Business Administration majors are exempt from the third GE area C1/C2 requirement. See advisor for details.

Chemistry, B.A.

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, pre dental, 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 the major or additional requirements for CR/NC grades.

B.A. Chemistry Major Requirements (38 units)

Core Program

- CHEM 1A - General Chemistry 1A **Units: 3** (Area B1)
- CHEM 1AL - General Chemistry Laboratory 1A **Units: 2** (Area B1)
- CHEM 1B - General Chemistry 1B **Units: 3**
- CHEM 1BL - General Chemistry Laboratory 1B **Units: 2**
- CHEM 102 - Quantitative Analytical Chemistry **Units: 5**
- CHEM 108 - Introductory Physical Chemistry **Units: 4**
- CHEM 128A - Organic Chemistry **Units: 3**
- CHEM 128B - Organic Chemistry **Units: 3**
- CHEM 129A - Organic Chemistry Laboratory **Units: 2**
- CHEM 129B - Organic Chemistry Laboratory **Units: 2**
- CHEM 155A - Fundamentals of Biochemistry **Units: 3**
- CHEM 155B - Physiological Chemistry and Metabolism **Units: 3**
- CHEM 156 - Biochemical Laboratory Techniques **Units: 3**

Additional Requirements (31-38 units)

- BIOL 1A - Introductory Biology **Units: 4** (Area B2)
- BIOL 1B - Introductory Biology **Units: 3**

- BIOL 1BL - Introductory Biology Laboratory **Units: 1**
- MATH 75 - Calculus I **Units: 4** (Area B4)
- MATH 76 - Calculus II **Units: 4** (MATH 77 strongly recommended)
- PHYS 2A - General Physics **Units: 4** (Area B1)
- PHYS 2B - General Physics **Units: 4**
OR
- PHYS 4A - Mechanics and Wave Motion **Units: 3**
- PHYS 4AL - Laboratory in Mechanics and Wave Motion **Units: 1**
- PHYS 4B - Electricity, Magnetism, and Heat **Units: 3**
- PHYS 4BL - Laboratory in Electricity, Magnetism, and Heat **Units: 1**
- PHYS 4C - Light and Modern Physics **Units: 3** (strongly recommended)

Elect 7 Units From

- BIOL 102 - Genetics **Units: 3**
- BIOL 103 - Cellular Biology **Units: 3**
- BIOL 104 - Genetics and Cell Biology Lab **Units: 1**
- BIOL 120 - Microbiology **Units: 3**
- or other approved courses

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. These courses include CHEM 1A and CHEM 1AL or PHYS 2A in G.E. Breadth B1, BIOL 1A in G.E. Breadth B2, and MATH 75 in G.E. Foundation B4. See advisor for details.

Chemistry, B.S.

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 the major or additional requirements for CR/NC grades.

B.S. Chemistry Major Requirements (46 units)

Core Program

- CHEM 1A - General Chemistry 1A **Units: 3** (Area B1)
- CHEM 1AL - General Chemistry Laboratory 1A **Units: 2** (Area B1)
- CHEM 1B - General Chemistry 1B **Units: 3**
- CHEM 1BL - General Chemistry Laboratory 1B **Units: 2**
- CHEM 102 - Quantitative Analytical Chemistry **Units: 5**
- CHEM 106 - Analytical Measurements Laboratory **Units: 4**
OR
- CHEM 106S - Instrumental Analysis in Industrial Settings **Units: 4**
- CHEM 110A - Physical Chemistry **Units: 3**
- CHEM 110B - Physical Chemistry **Units: 3**
- CHEM 111 - Physical Chemistry Laboratory **Units: 3**
- CHEM 123 - Advanced Inorganic Chemistry **Units: 3**
- CHEM 124 - Synthesis and Characterization **Units: 2**
- CHEM 128A - Organic Chemistry **Units: 3**
- CHEM 128B - Organic Chemistry **Units: 3**
- CHEM 129A - Organic Chemistry Laboratory **Units: 2**
- CHEM 129B - Organic Chemistry Laboratory **Units: 2**
- CHEM 155A - Fundamentals of Biochemistry **Units: 3**

Additional Requirements (23 units)

- MATH 75 - Calculus I **Units: 4** (Area B4)
- MATH 76 - Calculus II **Units: 4**
- MATH 77 - Calculus III **Units: 4**
- PHYS 4A - Mechanics and Wave Motion **Units: 3** (Area B1)
- PHYS 4AL - Laboratory in Mechanics and Wave Motion **Units: 1** (Area B1)
- PHYS 4B - Electricity, Magnetism, and Heat **Units: 3**
- PHYS 4BL - Laboratory in Electricity, Magnetism, and Heat **Units: 1**
- PHYS 4C - Light and Modern Physics **Units: 3**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. These courses include CHEM 1A and CHEM 1AL or PHYS 4A and PHYS 4AL in G.E. Breadth B1, and 3 units of MATH 75 in G.E. Foundation B4. See advisor for details.

Recommended courses to meet sufficient elective units: CHEM 140T, CHEM 155B, CHEM 156, CHEM 160H, CHEM 190

Chicano Studies, B.A.

Degree 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 advisor during their first semester on campus.

Major Requirements (33 units)

Lower-Division Requirements (6 units)

Basic Content:

- CLAS 3 - Introduction to Chicano/Latino Studies **Units: 3**
OR
- CLAS 5 - Chicano Culture and History **Units: 3**

Latin America:

- CLAS 70 - Introduction to Latin American Studies **Units: 3**

Upper-Division Requirements (21 units)

U.S.-Mexico Relations:

- CLAS 114 - Mexico and the Southwest 1810-1910
Units: 3
OR
- CLAS 115 - Mexico-U.S. Relations Since-1910 **Units: 3**

Political and Economic Issues:

- CLAS 128 - Latinx Politics **Units: 3**
OR
- CLAS 130 - Latinx Culture and Media Studies **Units: 3**

Arts and Humanities:

- CLAS 100 - Chicano Literature **Units: 3**
- CLAS 102W - Contemporary Chicana/Latina Writing and Culture **Units: 3**
- CLAS 106 - Folkloric Dance **Units: 3**
OR
- CLAS 108 - Latinx Theatre **Units: 3** (see note 1)

Research Methods:

- CLAS 150 - Research Methods **Units: 3**
OR
- CLAS 120 - Latina/o Cultural Changes **Units: 3**

Family and Gender:

- CLAS 141 - The Chicano Family **Units: 3**
- CLAS 160 - Sex, Race, and Class in American Society **Units: 3**
OR
- CLAS 162 - Chicana Women in a Changing Society **Units: 3**

Education:

- CLAS 143 - Bilingual/Bicultural Education **Units: 3**

Community Service/Senior Project:

- CLAS 145S - Service Learning in Chican@/Latin@ Settings **Units: 3**
OR
- CLAS 172S - Migration in the Americas **Units: 3** (see note 1)

Approved Electives (6 units)

Consult your advisor.

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. These courses include CLAS 9 in G.E. C1, and CLAS 3 or CLAS 5 in G.E. D2. See advisor for details.

Advising Notes

1. Contact the department chair or CLAS advisor for list of approved electives. A maximum of 3 units from CLAS 106, CLAS 107, CLAS 108, CLAS 145S, and CLAS 180T can be used to fulfill 3 units of electives, but students must secure proper and final approval from the department chair or CLAS advisor.
2. Consult your advisor 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 advisor for further information.
6. Students who are planning to do graduate work in Chicano or Latin American studies are advised to study Spanish and/Portuguese.

Child and Family Science - Child Development Option, B.S.

Degree Requirements

Major Requirements (58-60 units)

Pre-Major Requirements (12 units)

- CFS 31 - Introduction to Family Science **Units: 3**
- CFS 39 - Introduction to Child Development **Units: 3**
- CFS 100 - Child and Family Science **Units: 3**
- CFS 153 - Research Methods **Units: 3**

Core Requirements (18 units)

- CFS 32 - Intimate Relationships **Units: 3**
- CFS 130W - Professional Writing **Units: 3**
- CFS 134 - Culture and Diversity **Units: 3**
- CFS 143S - Risk and Resilience **Units: 3**
- CFS 135 - Parent Education **Units: 3**
- CFS 150 - Family Law and Policy **Units: 3**

Child Development Requirements (28-30 units)

- CFS 37 - Introductory Child Development Practicum **Units: 4**
OR
- CFS 145A - Observing the Development of Children **Units: 4**
- CFS 136 - Adolescence **Units: 3**
- CFS 138 - Infancy and Early Childhood Development **Units: 3**
- CFS 140 - Child Development Theories **Units: 3**
- CFS 139 - Advanced Child Development Practicum **Units: 4**
OR
- CFS 145B - Advanced Observation of Children **Units: 4**
OR
- CFS 193I - Internship **Units: 3**

12-13 Units Major Electives to be Selected From:

- CFS 38 - Life Span Development **Units: 3**
- CFS 131 - Family Theories **Units: 3**
- CFS 137 - Care of Infants and Young Children **Units: 3**
- CFS 179 - Family Life Education **Units: 3**
- CFS 190 - Independent Study **Units: 1-3**
- CFS 192 - Research Lab **Units: 1-3**
- SOC 165 - The Family **Units: 3**
- SOC 167 - Sociology of Childhood **Units: 3**

- GERON 10S - Journey of Adulthood: Planning a Meaningful Life **Units: 3**
- COMM 161 - Family Communication **Units: 3**
- CRIM 126 - Women and Violence: Public Policy and the Law **Units: 3**
- CRIM 140 - Family Violence **Units: 3**
- CLAS 141 - The Chicano Family **Units: 3**
- PSYCH 42 - Introductory to Statistics and Data Analysis **Units: 4**
OR
- ERE 153 - Educational Statistics **Units: 3**
- approved transfer courses

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units (120)*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. Child and Family Science majors take CFS 130W to fulfill the upper-division writing requirement. See advisor for details.

Advising Notes

1. In order to major in Child and Family Science, students must do the following:
 - a. formally declare major as "pre-CFS," and
 - b. complete pre-major classes: CFS 31, CFS 39, CFS 100, and CFS 153 (or their departmentally approved equivalents) with grades of C or better and have earned a cumulative grade point average of at least 2.5.
 - c. Upon completion of the pre-major, students who meet the GPA requirement will have their major changed and will then be allowed to enroll in restricted upper division CFS courses.
2. Students majoring in Child and Family Science are required to earn a grade of C or better in all major courses. A grade for/NC counts in the major only if it is the sole method of grading specified for a particular course.

3. The following courses may not be taken concurrently: CFS 37 and CFS 139 ; CFS 145A and CFS 145B; CFS 179 and CFS 193I .

Child and Family Science - Family Science Option, B.S.

Degree Requirements

Major Requirements (59-60 units)

Pre-Major requirements (12 units)

- CFS 31 - Introduction to Family Science **Units: 3**
- CFS 39 - Introduction to Child Development **Units: 3**
- CFS 100 - Child and Family Science **Units: 3**
- CFS 153 - Research Methods **Units: 3**

Core Requirements (18 units)

- CFS 32 - Intimate Relationships **Units: 3**
- CFS 130W - Professional Writing **Units: 3**
- CFS 134 - Culture and Diversity **Units: 3**
- CFS 143S - Risk and Resilience **Units: 3**
- CFS 135 - Parent Education **Units: 3**
- CFS 150 - Family Law and Policy **Units: 3**

Family Science Requirements (29-30 units)

- CFS 38 - Life Span Development **Units: 3**
- CFS 131 - Family Theories **Units: 3**
- CFS 179 - Family Life Education **Units: 3**
- CFS 193I - Internship **Units: 3**
- CFS 136 - Adolescence **Units: 3**
OR
- CFS 137 - Care of Infants and Young Children **Units: 3**
OR
- CFS 138 - Infancy and Early Childhood Development **Units: 3**
OR
- GERON 10S - Journey of Adulthood: Planning a Meaningful Life **Units: 3**
OR
- SOC 167 - Sociology of Childhood **Units: 3**
- FIN 30 - Personal Financial Planning **Units: 3**
- PH 91 - Human Sexuality **Units: 3**

8-9 Units Major Electives to be Selected From:

- CFS 190 - Independent Study **Units: 1-3**
- CFS 192 - Research Lab **Units: 1-3**
- SOC 165 - The Family **Units: 3**
- COMM 161 - Family Communication **Units: 3**
- WGSS 126 - Women and Violence: Public Policy and the Law **Units: 3**
- CRIM 140 - Family Violence **Units: 3**
- CLAS 141 - The Chicano Family **Units: 3**
- PSYCH 42 - Introductory to Statistics and Data Analysis **Units: 4**
OR
- ERE 153 - Educational Statistics **Units: 3**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. Child and Family Science majors take CFS 130W to fulfill the upper-division writing requirement. See advisor for details.

Advising Notes

1. In order to major in Child and Family Science, students must do the following:
 - a. formally declare major as "pre-CFS," and
 - b. complete pre-major classes: CFS 31, CFS 39, CFS 100, and CFS 153 (or their departmentally approved equivalents) with grades of C or better and have earned a cumulative grade point average of at least 2.5.
 - c. Upon completion of the pre-major, students who meet the GPA requirement will have their major changed and will then be allowed to enroll in restricted upper division CFS courses.
2. Students majoring in Child and Family Science are required to earn a grade of C or better in all major courses. A grade for/NC counts in the major only if it is the sole method of grading specified for a particular course.

3. The following courses may not be taken concurrently: CFS 37 and CFS 139 ; CFS 145A and CFS 145B; CFS 179 and CFS 193I .

City and Regional Planning, B.S.

Degree Requirements

Major Requirements (36 units)

Lower-Division Core (3 units)

- CRP 80 - Introduction to Cities and Urban Planning **Units: 3**

Upper-Division Core (27 units)

- CRP 110 - Planning Process and Theory **Units: 3**
- CRP 115 - Urban Design **Units: 3**
- CRP 120 - Community Development Theory & Practice **Units: 3**
- CRP 125 - Environmental Planning **Units: 3**
- CRP 130 - Transportation Planning **Units: 3**
- CRP 135 - Planning Law & Administration **Units: 3**
- CRP 140 - Economics for Planners **Units: 3**
- CRP 150A - Community Plan Making - A **Units: 3**
- CRP 150B - Community Plan Making - B **Units: 3**

Electives in City and Regional Planning or Geography (6 units)

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements .

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. These courses include CRP 80 (Area D2) and CRP 125 (Area ID). See advisor for details.

Advising Notes

1. 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 advisor for further information.
2. Students must regularly consult with their academic advisor. Such consultation will facilitate course selection and enable the student to develop a program consistent with individual interests and needs.
3. The selection of electives within the major should be strongly influenced by career goals, interests in graduate study, and related matters.

Civil Engineering, B.S.

Bachelor of Science Degree Requirements

Major Requirements (70 units)

Core Requirements (55 units)

- CE 1 - Civil Engineering Orientation **Units: 1**
- CE 2 - Engineering Communication and Essentials **Units: 1**
- CE 20 - Engineering Mechanics: Statics **Units: 3**
- CE 80 - Computer Applications in Civil Engineering **Units: 3**
- CE 121 - Mechanics of Materials **Units: 3** (Area IB)
- CE 121L - Mechanics of Materials Laboratory **Units: 1**
- CE 123 - Soil Engineering **Units: 3**
- CE 123L - Soil Engineering Laboratory **Units: 1**
- CE 124 - Concrete Laboratory **Units: 1**
- CE 128 - Civil Engineering Hydraulics **Units: 3**
- CE 129 - Engineering Hydraulics Lab **Units: 1**
- CE 130 - Theory of Structures **Units: 3**
- CE 132 - Reinforced Concrete Design **Units: 3**
- CE 150 - Transportation Planning and Design **Units: 3**
- CE 150L - Transportation Planning and Design Laboratory **Units: 1**
- CE 161 - Construction Engineering I **Units: 3** (Area ID)
- CE 170 - Introduction to Water Resources Engineering **Units: 3**
- CE 176 - Environmental Engineering **Units: 3**
- CE 176L - Environmental Quality Laboratory **Units: 1**
- CE 180A - Project Design **Units: 2**
- CE 180B - Senior Project **Units: 2**
- CE 185 - Civil Engineering Practice **Units: 2**
- GME 15 - Engineering Surveying **Units: 3**
- GME 15L - Engineering Surveying Laboratory **Units: 1**
- GME 66L - Computer-Aided Mapping **Units: 1**

- ME 112 - Engineering Mechanics: Dynamics **Units: 3**

Technical Area Courses (15 units)

Select 3 units from:

- CE 125 - Geotechnical Engineering Design **Units: 3**
- CE 133 - Design of Steel Structures **Units: 3**

Select 9 Units of Technical Area Courses from the Following (see areas below):

- CE 127 - Site Plan Engineering **Units: 3**
- CE 134 - Foundation Design **Units: 3**
- CE 136 - Design of Timber Structures **Units: 3**
- CE 151 - Pavement Design **Units: 3**
- CE 153 - Traffic Operations and Control **Units: 3**
- CE 154 - Airport Planning and Design **Units: 3**
- CE 155 - Transportation Geographic Information Systems (GIS) **Units: 3**
- CE 156 - Railroad Engineering: An Introduction **Units: 3**
- CE 157 - Highway and Railroad Geometric Design **Units: 3**
- CE 172 - Urban Stormwater Management **Units: 3**
- CE 173 - Hydrologic and Hydraulic Engineering Design **Units: 3**
- CE 174 - Water Distribution and Wastewater Collect Systems Design **Units: 3**
- CE 177 - Water Treatment Process Design **Units: 3**
- CE 178 - Wastewater Treatment Process Design **Units: 3**

Select 3 Units from Any Remaining Technical Area Courses:

Environmental and Water Resources:

- CE 171 - Engineering Hydrology **Units: 3**
- CE 172 - Urban Stormwater Management **Units: 3**
- CE 173 - Hydrologic and Hydraulic Engineering Design **Units: 3**
- CE 174 - Water Distribution and Wastewater Collect Systems Design **Units: 3**
- CE 177 - Water Treatment Process Design **Units: 3**
- CE 178 - Wastewater Treatment Process Design **Units: 3**

General Professional:

- CE 190 - Independent Study **Units: 1-3**
- CE 191T - Topics in Civil Engineering **Units: 1-3**

Geotechnical:

- CE 125 - Geotechnical Engineering Design **Units: 3**
- CE 134 - Foundation Design **Units: 3**
- EES 114 - Engineering Geology **Units: 3**

Structures:

- CE 131 - Intermediate Theory of Structures **Units: 3**
- CE 133 - Design of Steel Structures **Units: 3**
- CE 136 - Design of Timber Structures **Units: 3**
- CE 137 - Seismic Analysis of Building Structures **Units: 3**

Geomatics:

- GME 151 - Boundary Control and Legal Principles **Units: 3**
- GME 173 - Introduction to GIS **Units: 3**

Transportation:

- CE 151 - Pavement Design **Units: 3**
- CE 152 - Transportation Engineering Materials **Units: 3**
- CE 153 - Traffic Operations and Control **Units: 3**
- CE 154 - Airport Planning and Design **Units: 3**
- CE 155 - Transportation Geographic Information Systems (GIS) **Units: 3**
- CE 156 - Railroad Engineering: An Introduction **Units: 3**
- CE 157 - Highway and Railroad Geometric Design **Units: 3**

Additional Requirements (33 units)

- CHEM 3A - Introductory General Chemistry **Units: 4** (Area B1)
- EES 1 - Natural Disasters and Earth Resources **Units: 4**
- MATH 75 - Calculus I **Units: 4** (Area B4)
- MATH 76 - Calculus II **Units: 4**
- MATH 77 - Calculus III **Units: 4**
- MATH 81 - Elementary Differential Equations with Linear Algebra **Units: 3**
- **OR**
- ENGR 101 - Applied Engineering Analysis I **Units: 3**
- PHIL 1 - Introduction to Philosophy **Units: 3** (Area C2)
- **OR**
- PHIL 10 - Self, Religion, and Society **Units: 3** (Area C2)
- PHYS 4A - Mechanics and Wave Motion **Units: 3**

- PHYS 4AL - Laboratory in Mechanics and Wave Motion **Units: 1**
- PHYS 4B - Electricity, Magnetism, and Heat **Units: 3**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units) - *Engineering majors are exempt from G.E. Areas A3, C1, the third C1/C2, E, and IC*
- Multicultural and International (MI) - *Civil Engineering majors are exempt from the MI requirement.*
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total: 124 Units*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. These courses include MATH 75 (Area B4), CHEM 3A (Area B1), PHIL 1 or PHIL 10 (Area C2), CE 121 (Area IB), and CE 161 (Area ID). See advisor for details.

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 shall can be met completing ENGR 105WE with a letter grade of C or better.
3. Students must consult with their academic advisor at least once each year.
4. The 15 units of Technical Area Courses must be completed with a grade of C or better.
5. The following courses must be passed with a grade of "C" or better: MATH 75, MATH 76, MATH 77, MATH 81 or ENGR 101, PHYS 4A and PHYS 4B, CHEM 3A, CE 20, CE 121.
6. Students must obtain department approval prior to taking upper division major courses at another institution.

Cognitive Science, B.S.

Bachelor of Science Degree Requirements

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.

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 - Foundations of Cognitive Science **Units: 4**
- CSCI 40 - Introduction to Programming and Problem Solving **Units: 4**
- CSCI 41 - Introduction to Data Structures **Units: 4**
- LING 100 - General Linguistics **Units: 3**
- PHIL 45 - Introduction to Logic **Units: 3**
- PSYCH 42 - Introductory to Statistics and Data Analysis **Units: 4**
- PSYCH 128 - Cognitive Psychology **Units: 4**
- PSYCH 144 - Research Designs and Experimental Methods **Units: 5**
- CSCI 60 - Foundations of Computer Science **Units: 3**
OR
- MATH 114 - Discrete Structures **Units: 3**

Electives (9-12 units)

Select three courses from the following list:

- PSYCH 121 - Learning and Memory **Units: 4**
- PSYCH 124 - Sensation and Perception **Units: 4**
- PHIL 145 - Symbolic Logic **Units: 3**
- PHIL 146 - Philosophy of Language **Units: 3**
- LING 139 - General Phonetics **Units: 3**
- LING 142 - Phonology **Units: 3**
- LING 143 - Syntax **Units: 3**
- LING 151 - Languages of the World **Units: 3**

- LING 165 - Language Acquisition **Units: 3**
- CSCI 119 - Introduction to Formal Languages and Automata **Units: 3**
- CSCI 164 - Artificial Intelligence Programming **Units: 3**
- CSCI 166 - Principles of Artificial Intelligence **Units: 3**
- CGSCI 101 - Cognitive Science Seminar **Units: 3**
(course may be taken twice)

Additional Requirements

- PHIL 151 - Cognitive Science: Mind **Units: 3**
- PSYCH 10 - Introduction to Psychology **Units: 3**
- PSYCH 126 - Cognitive Neuroscience **Units: 4**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. The courses are PHIL 151 (Area IC) PSYCH 10 (Area D2). See advisor for details.

Communication, B.A.

Bachelor of Arts Degree Requirements

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 - Fundamentals of Public Communication **Units: 3**
- COMM 4 - Introduction to Interpersonal Communication **Units: 3**
- COMM 5 - Argumentation **Units: 3**
- COMM 6H - Rhetoric for Autonomy and Collaboration in the Marketplace of Ideas **Units: 3**
- COMM 7 - Persuasion **Units: 3**
- COMM 8 - Group Discussion **Units: 3**
- COMM 15 - Forensics Laboratory **Units: 3** (see note 2)

Core Competencies (12 units)

(see note 6)

- COMM 100 - Theories of Human Communication **Units: 3**
- COMM 140 - Rhetorical Theory **Units: 3**
- COMM 142 - Communication Criticism **Units: 3**
- COMM 166 - Communication Research Methods **Units: 3**

Personal and Professional Communication (18 units)

Select a minimum of two courses in each area

Personal and Relational Settings:

- COMM 108 - Communication and the Small Group **Units: 3**
- COMM 120 - Gender Communication **Units: 3**
- COMM 150 - Communication and Aging **Units: 3**
- COMM 161 - Family Communication **Units: 3**
- COMM 162 - Interpersonal Communication **Units: 3**
- COMM 164 - Intercultural Communication **Units: 3**
- COMM 169 - Communication and Conflict **Units: 3**

Advocacy in Public Settings:

- COMM 103 - Advanced Public Speaking **Units: 3**
- COMM 105 - Argumentation Theory **Units: 3**
- COMM 115 - Advanced Forensics Laboratory **Units: 3**
(see note 2)
- COMM 130 - Environmental Communication **Units: 3**
- COMM 148 - American Public Address **Units: 3**
- COMM 149 - Freedom of Speech **Units: 3**

- COMM 160 - Meaning, Language, and Communication **Units: 3**
- COMM 163 - Social Influence and Attitude Change **Units: 3**

Organizational and Professional Settings:

- COMM 114 - Communication and Learning **Units: 3**
- COMM 165 - Computer Applications in Communication **Units: 3**
- COMM 167 - Leadership in Groups and Organizations **Units: 3**
- COMM 168 - Communication in Organizations **Units: 3**
- COMM 170 - Business and Professional Speaking **Units: 3**
- COMM 171 - Communication and Planning Change in the Social System **Units: 3**
- COMM 176 - Communication Consulting and Training **Units: 3**
- COMM 179I - Internship **Units: 1-6**
- COMM 189 - Projects in Communication **Units: 1-3**

Electives in Major (6 units)

(see note 2)

Select an additional 6 units of upper-division communication coursework.

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements (see note 1). See advisor for details.

Advising Notes

1. The 6 units of COMM 3, COMM 5, COMM 7 and/or COMM 8 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 179I (Internship).
4. No more than 6 units of COMM 179I (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. A grade of C or better is required in COMM 100, COMM 140, COMM 142, and COMM 166 to fulfill the core competencies requirement.

Communicative Sciences - Audiology Option, B.A.

Bachelor of Arts Degree Requirements

Major Requirements (41 units)

- CSDS 80 - Introduction to Human Communication and Disorders **Units: 3**
- CSDS 91 - American Sign Language I **Units: 3**
- CSDS 95 - Introduction to Speech and Language Development **Units: 3**
- CSDS 101 - Phonetics of American English **Units: 3**
- CSDS 102 - Anatomy and Physiology of the Speech Hearing Mechanisms **Units: 3**
- CSDS 103 - Speech and Hearing Science **Units: 3**
- CSDS 105 - Speech Sound Disorders in Children **Units: 3**
- CSDS 107 - Observation in Communicative Disorders and Deaf Studies: Speech-Language Pathology **Units: 1-3**
- CSDS 109 - Disorders of Language **Units: 3**
- CSDS 110 - Diagnostic Procedures **Units: 3**
- CSDS 116 - Treatment Procedures in Communicative Disorders **Units: 3**
- CSDS 128 - Observation in Audiology **Units: 1-3**
- CSDS 131 - Principles of Audiology **Units: 3**
- CSDS 141 - Education of Deaf Children and Their Parents **Units: 3**
- CSDS 172 - Neural Bases of Speech, Language, and Hearing **Units: 3**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor. See advising notes 4 and 5 for recommended electives.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. See advisor for details.

Advising Notes

1. CR/NC grading is not permitted for CSDS 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 advisor for further information.
3. Students in CSDS 110, CSDS 162, CSDS 163, CSDS 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).

Communicative Sciences - Speech-Language Pathology Option, B.A.

Bachelor of Arts Degree Requirements

Major Requirements (47 units)

- CSDS 80 - Introduction to Human Communication and Disorders **Units: 3**
- CSDS 91 - American Sign Language I **Units: 3**
- CSDS 95 - Introduction to Speech and Language Development **Units: 3**
- CSDS 101 - Phonetics of American English **Units: 3**
- CSDS 102 - Anatomy and Physiology of the Speech Hearing Mechanisms **Units: 3**
- CSDS 103 - Speech and Hearing Science **Units: 3**

- CSDS 105 - Speech Sound Disorders in Children **Units: 3**
- CSDS 107 - Observation in Communicative Disorders and Deaf Studies: Speech-Language Pathology **Units: 1-3**
- CSDS 109 - Disorders of Language **Units: 3**
- CSDS 110 - Diagnostic Procedures **Units: 3**
- CSDS 114 - Education of Exceptional Children **Units: 3**
- CSDS 115 - Disorders of Fluency and Voice **Units: 3**
- CSDS 116 - Treatment Procedures in Communicative Disorders **Units: 3**
- CSDS 117 - Behavioral Principles in Assessing and Treating Communicative Disorders **Units: 3**
- CSDS 128 - Observation in Audiology **Units: 1-3**
- CSDS 131 - Principles of Audiology **Units: 3**
- CSDS 172 - Neural Bases of Speech, Language, and Hearing **Units: 3**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor. See advising notes 4 and 5 for recommended electives.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. See advisor for details.

Advising Notes

1. CR/NC grading is not permitted for CSDS 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 advisor for further information.
3. Students in CSDS 110, CSDS 162, CSDS 163, CSDS 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. A statistics course is a prerequisite to CSDS 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.

Computer Engineering, B.S.

Bachelor of Science Degree

Requirements

Major Requirements (73-74 units)

Major Core Requirements (61-62 units)

- ECE 1 - Introduction to Electrical and Computer Engineering **Units: 1**
- ECE 71 - Introduction to Computational Programming **Units: 3**
OR
- CSCI 40 - Introduction to Programming and Problem Solving **Units: 4**
- CSCI 41 - Introduction to Data Structures **Units: 4**
- ECE 72 - Introduction to Electrical and Computer Engineering Tools **Units: 2**
- ECE 85 - Digital Logic Design **Units: 3**
- ECE 85L - Digital Logic Design Laboratory **Units: 1**
- ECE 90 - Principles of Electrical Circuits **Units: 3**
- ECE 90L - Principles of Electrical Circuits Laboratory **Units: 1**
- ECE 103E - Professional Development Skills **Units: 1**
- ECE 106 - Switching Theory and Logical Design **Units: 3**
- ECE 118 - Microprocessor Architecture and Programming **Units: 3 (Area ID)**
- ECE 118L - Microcontroller Laboratory **Units: 1**
- ECE 124 - Signal and Systems **Units: 3**
- ECE 125 - Probabilistic Engineering Systems Analysis **Units: 3**
- ECE 128 - Electronics I **Units: 3**
- ECE 128L - Electronics I Laboratory **Units: 1**
- ECE 141 - Algorithmic Computations **Units: 3**
- ECE 141L - Algorithmic Computations Laboratory **Units: 1**
- ECE 144 - Embedded Operating Systems **Units: 3**
- ECE 146 - Computer Networks **Units: 3**
- ECE 174 - Advanced Computer Architecture **Units: 3**
- ECE 176 - Advanced Digital Logic Design **Units: 3**
- ECE 178 - Embedded Systems **Units: 4**
- ECE 186A - Senior Design I **Units: 1**
- ECE 186B - Senior Design II **Units: 3 (Area IB)**

Technical Area (12 units)

Select at least 12 units from the following:

- ECE 107 - Digital Signal Processing **Units: 3**
- ECE 114 - Physical Electronics **Units: 3**
- ECE 115 - Computer Organization **Units: 3**
- ECE 119L - Programmable Logic Controllers **Units: 1**
- ECE 122LE - Entrepreneurial Internet of Things **Units: 1**
- ECE 126 - Electromagnetic Theory and Applications I **Units: 3**
- ECE 132 - Design of Digital Systems **Units: 3**
- ECE 134 - Analog and Digital Communication Engineering **Units: 3**
- ECE 134L - Communication Engineering Lab **Units: 1**
- ECE 135 - Wireless Communication Systems **Units: 3**
- ECE 138 - Electronics II **Units: 3**
- ECE 138L - Electronics II Laboratory **Units: 1**
- ECE 140 - VLSI System Design **Units: 3**
- ECE 148 - Analysis and Design of Digital Circuits **Units: 3**
- ECE 150 - Cloud and Cyber Security **Units: 3**
- ECE 155 - Control Systems **Units: 3**
- ECE 156 - Fundamentals of Cryptography and Computer Network Security **Units: 3**
- ECE 172 - Fundamentals of Machine Learning **Units: 3**
- ECE 173 - Robotics Fundamentals **Units: 3**
- CSCI 150 - Introduction to Software Engineering **Units: 3**
- CSCI 152E - Software Engineering **Units: 3**
- CSCI 164 - Artificial Intelligence Programming **Units: 3**
- CSCI 166 - Principles of Artificial Intelligence **Units: 3**
- CSCI 172 - Computer Graphics **Units: 3**

Additional Requirements (35-36 units)

- BIOL 10 - Life Science **Units: 3 (Area B2)**
OR
- BIOL 1A - Introductory Biology **Units: 4 (Area B2)**
- CHEM 3A - Introductory General Chemistry **Units: 4 (Area B1)**
- ECON 40 - Principles of Microeconomics **Units: 3 (Area D2)**
OR
- ECON 50 - Principles of Macroeconomics **Units: 3 (Area D2)**
- MATH 75 - Calculus I **Units: 4 (Area B4)**
- MATH 76 - Calculus II **Units: 4**
- MATH 77 - Calculus III **Units: 4**
- MATH 81 - Elementary Differential Equations with Linear Algebra **Units: 3**

OR

- ENGR 101 - Applied Engineering Analysis I **Units: 3**
- PHIL 1 - Introduction to Philosophy **Units: 3** (Area C2)

OR

- PHIL 10 - Self, Religion, and Society **Units: 3** (Area C2)
- PHYS 4A - Mechanics and Wave Motion **Units: 3**
- PHYS 4B - Electricity, Magnetism, and Heat **Units: 3**
- PHYS 4BL - Laboratory in Electricity, Magnetism, and Heat **Units: 1** (see advising notes)

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units) - *Engineering majors are exempt from G.E. Areas A3, C1, the third C1/C2, E, and IC*
- Multicultural and International (MI) - *Computer Engineering majors are exempt from the MI requirement*
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total: 123 Units*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. These courses include CHEM 3A (Area B1), BIOL 10 or BIOL 1A (Area B2), MATH 75 (Area B4), PHIL 1 or PHIL 10 (Area C2), ECON 40 or ECON 50 (Area D2), ECE 186B (Area IB), and ECE 118 (Area ID). See advisor for details.

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 advisor for details.)
3. All computer engineering students must consult with their academic advisor at least once each year.
4. ENGR 101 may be taken instead of MATH 81.
5. The prerequisites for ECE 186A are ECE 124, ECE 128, ECE 128L, ECE 141, ECE 146, ECE 176 and one course taken concurrently from ECE 174 or ECE 178.
6. Students must enroll in and complete ECE 1 during the first two semesters of attendance at Fresno State.

7. The following prerequisite courses must be completed with a letter grade of C or better: ECE 72, ECE 71, ECE 85, ECE 85L, ECE 90, ECE 90L.
8. A maximum of 6 units CSCI courses may be selected as technical area elective (see major requirements).
9. Prerequisites: All prerequisites are enforced.

Computer Science, B.S.

Bachelor of Science Degree Requirements

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.

Major Requirements (56 units)

- CSCI 40 - Introduction to Programming and Problem Solving **Units: 4**
- CSCI 41 - Introduction to Data Structures **Units: 4**
- CSCI 60 - Foundations of Computer Science **Units: 3**
- CSCI 80 - Introduction to Computer Systems **Units: 3**
- CSCI 113 - Introduction to Computer Organization **Units: 4**
- CSCI 114 - Introduction to Operating Systems **Units: 3**
- CSCI 115 - Algorithms and Data Structures **Units: 4**
- CSCI 117 - Structures of Programming Languages **Units: 4**
- CSCI 119 - Introduction to Formal Languages and Automata **Units: 3**

Select Seven of the Following, Including One of the Sequences (21 units)

- CSCI 124 - Introduction to File Processing **Units: 3**
- CSCI 126 - Database Systems **Units: 3**
- CSCI 130 - Web Programming **Units: 3**
- CSCI 134 - Compiler Design **Units: 3**
- CSCI 146 - Systems Architecture **Units: 3**
- CSCI 148 - Systems Programming **Units: 3**
- CSCI 150 - Introduction to Software Engineering **Units: 3**
- CSCI 152E - Software Engineering **Units: 3**
- CSCI 154 - Simulation **Units: 3**
- CSCI 156 - Internetworking Systems and Protocols **Units: 3**
- CSCI 164 - Artificial Intelligence Programming **Units: 3**
- CSCI 166 - Principles of Artificial Intelligence **Units: 3**
- CSCI 168E - Big Data Analytics **Units: 3**
- CSCI 172 - Computer Graphics **Units: 3**
- CSCI 173 - Advanced Computer Graphics **Units: 3**
- CSCI 174 - Design and Analysis of Algorithms **Units: 3**
- CSCI 176 - Parallel Processing **Units: 3**
- CSCI 177 - Distributed Computer Systems **Units: 3**
- CSCI 186 - Formal Languages and Automata **Units: 3**
- CSCI 188 - Introduction to Computability **Units: 3**
- CSCI 191T - Topics in Computer Science **Units: 3**
(max total 6 units)

Approved Sequences:

- CSCI 126 - Database Systems **Units: 3**
AND
- CSCI 130 - Web Programming **Units: 3**

- CSCI 114 - Introduction to Operating Systems **Units: 3**
AND
- CSCI 146 - Systems Architecture **Units: 3**
OR
- CSCI 114 - Introduction to Operating Systems **Units: 3**
AND
- CSCI 148 - Systems Programming **Units: 3**
- CSCI 150 - Introduction to Software Engineering **Units: 3**
AND
- CSCI 152E - Software Engineering **Units: 3**
- CSCI 156 - Internetworking Systems and Protocols **Units: 3**
AND
- ECE 146 - Computer Networks **Units: 3**
- CSCI 164 - Artificial Intelligence Programming **Units: 3**
AND
- CSCI 166 - Principles of Artificial Intelligence **Units: 3**
- CSCI 172 - Computer Graphics **Units: 3**
AND
- CSCI 173 - Advanced Computer Graphics **Units: 3**
- CSCI 176 - Parallel Processing **Units: 3**
AND
- CSCI 177 - Distributed Computer Systems **Units: 3**
- CSCI 186 - Formal Languages and Automata **Units: 3**
AND
- CSCI 188 - Introduction to Computability **Units: 3**

Complete an eighth course from:

- CSCI 195i - Computer Science Internship **Units: 3**
- CSCI 196S - Computer Science Service-Learning Senior Project **Units: 3**
- CSCI 198 - Project **Units: 3**
- or an additional second course in one of the sequences above (**3 units**)

Additional Requirements (16 units)

- MATH 75 - Calculus I **Units: 4** (Area B4)
- MATH 76 - Calculus II **Units: 4**
- PHYS 2A - General Physics **Units: 4** (Area B1)
AND
- PHYS 2B - General Physics **Units: 4**
OR
- PHYS 4A - Mechanics and Wave Motion **Units: 3** (Area B1)
- PHYS 4AL - Laboratory in Mechanics and Wave Motion **Units: 1** (Area B1)
- PHYS 4B - Electricity, Magnetism, and Heat **Units: 3**
AND

- PHYS 4BL - Laboratory in Electricity, Magnetism, and Heat **Units: 1**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI) - *Computer Science majors are exempt from the MI requirement.*
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total: 120 Units*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. These courses include MATH 75 (Area B4), and PHYS 2A or PHYS 4A and PHYS 4AL (Area B1) are used to satisfy the General Education requirements.

Construction Management, B.S.

Bachelor of Science Degree Requirements

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

- Improve student success and graduation rates consistent with university initiatives
- Enhance smart growth of freshman and transfer student enrollment in the degree program consistent with available resources
- Enhance the quality of freshman and transfer students enrolled in the degree program
- Enhance academic advising for incoming freshman and transfer students
- Enhance opportunities for students to have diverse and experiential learning through involvement in high impact education practices
- Enhance student career assistance to increase placement of graduates in entry-level positions across construction industry sectors

Major Requirements (56 units)

Lower-Division Major Requirements (13 units)

- CM 1 - Construction Management and Architectural Studies Orientation 1 **Units: 1**
- CM 2 - Construction Management and Architectural Studies Orientation 2 **Units: 1**
- CM 17S - Construction Materials & Basic Building Systems **Units: 3**
- CM 18 - Construction Graphics **Units: 3**
- CM 19L - Integrated Construction Lab **Units: 1**
- CM 20 - Construction Documents **Units: 3**
- CM 21L - Construction Quantity Take-Off Lab **Units: 1**

Upper-Division Major Requirements (37 units)

- CM 105 - Construction Structures **Units: 3**
OR
- CE 20 - Engineering Mechanics: Statics **Units: 3**
- CM 107 - Advanced Construction Structures **Units: 3**
- CM 107L - Advanced Construction Structures Lab **Units: 1**

- CM 110 - Estimating and Bidding **Units: 3**
- CM 116 - Construction Scheduling **Units: 3**
- CM 120 - Construction Safety Management **Units: 2**
- CM 122 - Construction Laws **Units: 3**
- CM 127 - Construction Soils and Foundation **Units: 3**
- CM 160 - Plumbing Systems **Units: 2**
- CM 162 - Mechanical Systems **Units: 2**
- CM 164 - Building Electrical Systems **Units: 2**
- CM 170 - Construction Project Controls **Units: 3**
- CM 174L - Integrated Construction Management Lab **Units: 1**
- CM 179 - Construction Management Tech Topics Seminar **Units: 1**
- CM 180A - Construction Management Capstone 1 **Units: 1**
- CM 180B - Construction Management Capstone 2 **Units: 3 (Area IB)**
- CM 193I - Internship/Work Experience **Units: 1**

Construction Management Electives (6 units)

Select at least one course from the following areas:

Multidisciplinary Design/Build Electives (3 units)

Select one course from the following:

- CM 134 - Architectural Design Problems **Units: 3**
- CM 144 - Construction Site Planning and Development **Units: 3**

Construction Sector Electives (3 units)

Select one course from the following:

- CM 150 - Building Construction **Units: 3**
- CM 151 - Heavy Civil Construction **Units: 3**

Additional Requirements (28-29 units)

Construction Math and Science Pathways - Choose One Pathway (15 - 16 units):

Pathway 1:

- MATH 75 - Calculus I **Units: 4 (Area B4)**
- MATH 76 - Calculus II **Units: 4**
- PHYS 4A - Mechanics and Wave Motion **Units: 3 (Area B1)**

- PHYS 4AL - Laboratory in Mechanics and Wave Motion **Units: 1 (Area B1)**

Also choose one from:

- EES 1 - Natural Disasters and Earth Resources **Units: 4**
- CHEM 1A - General Chemistry 1A **Units: 3**
- CHEM 3A - Introductory General Chemistry **Units: 4**

Pathway 2:

- MATH 75 - Calculus I **Units: 4 (Area B4)**
- PHYS 2A - General Physics **Units: 4 (Area B1)**
- PHYS 2B - General Physics **Units: 4**

Also choose either:

- DS 73 - Statistical Analysis I **Units: 3**
- MATH 11 - Elementary Statistics **Units: 3**

Business Courses (13 units):

- ACCT 4A - Financial Accounting Principles and Systems **Units: 3**
- BA 18 - Business and the Legal Environment **Units: 4**
- ECON 40 - Principles of Microeconomics **Units: 3 (Area D2)**
- **OR**
- ECON 50 - Principles of Macroeconomics **Units: 3 (Area D2)**
- MGT 104 - Administrative Principles of Management **Units: 3**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units) - *Construction Management majors are exempt from the third course in Area C 1/2, Area E, and Area IC*
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. These courses include PHYS 2A or PHYS 4A and PHYS 4AL (Area B1), MATH 75 (Area B4), ECON 40 or ECON 50 (Area D2), and CM 180B (Area IB). Construction management students are encouraged to take BA 104 or MKTG 100S to double-count toward the business minor and the MI requirement. See advisor for details.

Advising Notes

1. Courses in construction management, mathematics and the physical sciences taken CR/NC are not counted toward fulfillment of degree requirements in construction management.
2. All construction management students must consult with their academic advisors at least once per academic year.
3. All students enrolled in construction management courses are required to follow the "DISCOVERe Mobile Device Requirements" as established by the Department of Construction Management. The current version of these requirements can be found on the department website: <http://fresnostate.edu/engineering/cm/documents/mobile-device-requirements2019real.pdf>

Criminology - Corrections Option, B.S.

Bachelor of Science Degree Requirements

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: (10 units)

- CRIM 1 - Strategies for Success in the Criminology Department **Units: 1**
- CRIM 2 - Administration of Justice **Units: 3**
- CRIM 20 - Criminal Law **Units: 3**
- CRIM 50 - Statistical and Computer Applications in Criminal Justice **Units: 3**

Upper-Division Core: (18 units)

- CRIM 100 - Criminology **Units: 3**
- CRIM 102 - Criminal Justice Organization and Management **Units: 3**
- CRIM 109 - Comparative Systems of Criminal Justice **Units: 3**

- CRIM 112 - Professionalism in Criminal Justice **Units: 3**
- CRIM 170 - Research Methods in Criminal Justice **Units: 3**
- CRIM 174 - Ethnic and Gender Issues in Criminal Justice **Units: 3**

Upper-Division Requirements: (19 units)

- CRIM 119 - Legal Aspects of Corrections **Units: 3**
- CRIM 131 - Correctional Institution Visitations **Units: 1-3**
- CRIM 133 - Institutional Corrections **Units: 3**
- CRIM 135 - Community-Based Corrections **Units: 3**
- CRIM 138 - Punishment and Society **Units: 3**
- CRIM 141 - Alcohol, Drugs, and Criminality **Units: 3**
- CRIM 180I - Internship **Units: 3**
OR
- CRIM 180HI - Honors Internship **Units: 3**

Electives (6 units)

Any upper-division course offered by the Criminology Department that is not already required by the option, or any of the following courses:

- AFRS 146 - Law and the Minority Community **Units: 3**
- CLAS 120 - Latina/o Cultural Changes **Units: 3**
- PHIL 121 - Ethics in Criminal Justice **Units: 3**
AND
- PAX 100 - Peace and Conflict Studies **Units: 3** or any other suitable course with permission from the department

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. See advisor for details.

Advising Notes

1. From Fall 2019, students wishing to change their major to Criminology or Forensic Behavioral Sciences will need to have a cumulative GPA of at least 2.5.
2. CRIM 108 - a maximum of three units can be used as a criminology elective, or as a substitution for the internship requirement, but not both. Excess units from CRIM 108 will count as general elective units which can be used as part of the 120 unit graduation requirement.

Criminology - Law Enforcement Option, B.S.

Bachelor of Science Degree Requirements

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 Requirements (49 units)

Lower-Division Requirements: (10 units)

- CRIM 1 - Strategies for Success in the Criminology Department **Units: 1**
- CRIM 2 - Administration of Justice **Units: 3**
- CRIM 20 - Criminal Law **Units: 3**
- CRIM 50 - Statistical and Computer Applications in Criminal Justice **Units: 3**

Upper-Division Core: (18 units)

- CRIM 100 - Criminology **Units: 3**
- CRIM 102 - Criminal Justice Organization and Management **Units: 3**
- CRIM 109 - Comparative Systems of Criminal Justice **Units: 3**
- CRIM 112 - Professionalism in Criminal Justice **Units: 3**
- CRIM 170 - Research Methods in Criminal Justice **Units: 3**
- CRIM 174 - Ethnic and Gender Issues in Criminal Justice **Units: 3**

Upper-Division Requirements: (15 units)

- CRIM 113 - Forensic Science **Units: 3**
- CRIM 110 - Police in America **Units: 3**

- CRIM 117 - Criminal Legal Process **Units: 3**
- CRIM 138 - Punishment and Society **Units: 3**

- CRIM 180I - Internship **Units: 3**
OR
- CRIM 180HI - Honors Internship **Units: 3**

Electives (6 units)

Any upper-division course offered by the Criminology Department that is not already required by the option, or any of the following courses:

- AFRS 146 - Law and the Minority Community **Units: 3**
- CLAS 120 - Latina/o Cultural Changes **Units: 3**
- PHIL 121 - Ethics in Criminal Justice **Units: 3** and
- PAX 100 - Peace and Conflict Studies **Units: 3** or any other suitable course with permission from the department

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. See advisor for details.

Advising Notes

1. From Fall 2019, students wishing to change their major to Criminology or Forensic Behavioral Sciences will need to have a cumulative GPA of at least 2.5.
2. CRIM 108 - a maximum of three units can be used as a criminology elective, or as a substitution for the internship requirement, but not both. Excess units from CRIM 108 will count as general elective units which can be used as part of the 120 unit graduation requirement.

Criminology - Law Enforcement Option, B.S. (Continuing & Global Education)

Bachelor of Science in Criminology Law Enforcement Option (Off-Campus) Requirements

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 online 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 Sheriff's 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 online 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)

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

<https://socialsciences.fresnostate.edu/criminology/off-campus/>

Criminology - Victimology Option, B.S.

Bachelor of Science Degree Requirements

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 Requirements (52 units)

Lower-Division Requirements: (10 units)

- CRIM 1 - Strategies for Success in the Criminology Department **Units: 1**
- CRIM 2 - Administration of Justice **Units: 3**
- CRIM 20 - Criminal Law **Units: 3**
- CRIM 50 - Statistical and Computer Applications in Criminal Justice **Units: 3**

Upper-Division Core: (18 units)

- CRIM 100 - Criminology **Units: 3**
- CRIM 109 - Comparative Systems of Criminal Justice **Units: 3**
- CRIM 112 - Professionalism in Criminal Justice **Units: 3**
- CRIM 134 - Criminal Justice Counseling **Units: 3**
- CRIM 170 - Research Methods in Criminal Justice **Units: 3**
- CRIM 174 - Ethnic and Gender Issues in Criminal Justice **Units: 3**

Upper-Division Requirements: (18 units)

- CRIM 140 - Family Violence **Units: 3**
- CRIM 173 - Trauma & Crisis Intervention **Units: 3**
- CRIM 175 - Victimology **Units: 3**
- CRIM 176 - Victim Services **Units: 3**
- CRIM 177 - Legal Policy in Victim Services **Units: 3**
- CRIM 180I - Internship **Units: 3**
OR
- CRIM 180HI - Honors Internship **Units: 3**

Electives (6 units)

Any upper-division course offered by the Criminology Department that is not already required by the option, or any of the following courses:

- AFRS 146 - Law and the Minority Community **Units: 3**
- CLAS 120 - Latina/o Cultural Changes **Units: 3**
- PHIL 121 - Ethics in Criminal Justice **Units: 3**
- PAX 100 - Peace and Conflict Studies **Units: 3** or other suitable courses with permission from the department (6 units)
- No more than three units of CRIM 108.

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. See advisor for details.

Advising Notes

1. From Fall 2019, students wishing to change their major to Criminology or Forensic Behavioral Sciences will need to have a cumulative GPA of at least 2.5.
2. CRIM 108 - a maximum of three units can be used as a criminology elective, or as a substitution for the internship requirement, but not both. Excess units from CRIM 108 will count as general elective units which can be used as part of the 120 unit graduation requirement.

Dance, B.A.

Bachelor of Arts Degree Requirements

The dance major involves students in creative inquiry, embodied, inventive collaboration, and skillful expression of ideas in order to

prepare them for lives of leadership, service, and excellence in the arts, culture, and business of the future. Each student in the dance major explores performance, training, design, technology, and research in a multifaceted liberal arts context in order to develop individual identities as artists and the abilities to work collaboratively in a diverse workplace. The degree provides an excellent broad-based foundation for work in the arts or entertainment professions or for further training at graduate schools or conservatories. The program's liberal arts emphasis prepares graduates for a variety of occupations in multiple performance fields, as well as non-performance fields.

Major Requirements (54 units)

- DRAMA 32 - Introduction to Acting **Units: 3**
OR
- DRAMA 33 - Fundamentals of Acting **Units: 3**
AND
- DRAMA 34 - Theatre Crafts **Units: 3**
- DANCE 20 - Physical Theatre **Units: 3**
- DANCE 70 - Balance BodyMind **Units: 3**
- DANCE 159 - Music in Choreography **Units: 3**
- DANCE 160S - Creative Movement for Children **Units: 3**
- DANCE 164 - Dance History **Units: 3**
- DANCE 166 - Dance Choreography **Units: 2**
- DANCE 170 - Pilates Mat **Units: 3**
- DANCE 171 - Philosophical Bases and Trends in Dance **Units: 3**
- DANCE 175 - World Dance **Units: 3**
- DANCE 117A - Modern Dance Technique **Units: 1**
- DANCE 117B - Modern Dance Technique **Units: 1**
- DANCE 117C - Modern Dance Technique **Units: 2**
OR
- DANCE 117D - Modern Dance Technique **Units: 2**
- DANCE 158A - Ballet Technique **Units: 1**
- DANCE 158B - Ballet Technique **Units: 1**
- DANCE 158C - Ballet Technique **Units: 2**
OR
- DANCE 158D - Ballet Technique **Units: 2**

Production:

- DANCE 115 - University Dance Theatre **Units: 1**
- DANCE 163 - Contemporary Dance Ensemble **Units: 2**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)

- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. This includes DANCE 70 (Area E). See advisor for details.

Advising Notes

1. Special requirements: Students seeking the B.A. in Dance 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 (DANCE 117A, DANCE 117B, DANCE 117C, DANCE 117D, DANCE 155A, DANCE 155B, DANCE 158A, DANCE 158B, DANCE 158C, DANCE 158D) may be credited toward the minimum B.A. graduation requirement of 120 units.
3. CR/NC grading is not permitted in the dance major.

Deaf Studies - Deaf Education Option, B.A.

Bachelor of Arts Degree Requirements

Major Requirements for the Deaf Education Option (55 units)

- CSDS 80 - Introduction to Human Communication and Disorders **Units: 3**
- CSDS 91 - American Sign Language I **Units: 3**
- CSDS 92 - American Sign Language II **Units: 3**
- CSDS 93 - American Sign Language III **Units: 4**
- CSDS 94S - American Sign Language IV **Units: 4**
- CSDS 95 - Introduction to Speech and Language Development **Units: 3**
- CSDS 96 - Linguistics of American Sign Language **Units: 3**
- CSDS 106 - ASL and English Grammar: Comparative Analysis **Units: 3**
- CSDS 114 - Education of Exceptional Children **Units: 3**
- CSDS 121 - Cochlear Implants and Deaf Children **Units: 3**

- CSDS 128 - Observation in Audiology **Units: 1-3**
- CSDS 131 - Principles of Audiology **Units: 3**
- CSDS 136S - American Sign Language V with Service Learning **Units: 3**
- CSDS 137 - American Sign Language V Lab **Units: 1**
- CSDS 139 - Deaf Culture **Units: 3**
- CSDS 141 - Education of Deaf Children and Their Parents **Units: 3**
- CSDS 162 - Speech for Deaf and Hard-of-Hearing Children and Youth **Units: 3**
- CSDS 163 - ASL and English Acquisition by Deaf Children and Youth **Units: 3**
- CSDS 164 - School Subjects for Deaf and Hard-of-Hearing Children and Youth **Units: 3**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total: 120 Units*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. See advisor for details.

Advising Notes

1. CR/NC grading is not permitted for CSDS 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 CSDS 110, CSDS 162, CSDS 163, CSDS 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. A statistics course is a prerequisite to CSDS 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.

Deaf Studies - Deaf Studies Option, B.A.

Bachelor of Arts Degree Requirements

Major Requirements for the Deaf Studies Option (54 units)

Required 42 units:

- CSDS 80 - Introduction to Human Communication and Disorders **Units: 3**
- CSDS 90 - Deaf American Literature **Units: 3**
- CSDS 91 - American Sign Language I **Units: 3**
- CSDS 92 - American Sign Language II **Units: 3**
- CSDS 93 - American Sign Language III **Units: 4**
- CSDS 94S - American Sign Language IV **Units: 4**
- CSDS 95 - Introduction to Speech and Language Development **Units: 3**
- CSDS 96 - Linguistics of American Sign Language **Units: 3**
- CSDS 98 - Introduction to Hard of Hearing and Deaf People **Units: 3**
- CSDS 106 - ASL and English Grammar: Comparative Analysis **Units: 3**
- CSDS 136S - American Sign Language V with Service Learning **Units: 3**
- CSDS 137 - American Sign Language V Lab **Units: 1**
- CSDS 139 - Deaf Culture **Units: 3**
- CSDS 141 - Education of Deaf Children and Their Parents **Units: 3**

Select 12 units from the following:

- COMM 103 - Advanced Public Speaking **Units: 3**
- COMM 108 - Communication and the Small Group **Units: 3**
- GERON 161 - Multiculture/Aging **Units: 3**
- RA 113 - Programming for Youth At-Risk **Units: 3**
- RA 121 - Community and Non-Profit Recreation Services **Units: 3**
- RA 125 - Diversity and Inclusive Practices in Recreation Therapy and Recreation **Units: 3**
- SWRK 125 - Social Services for the Aging **Units: 3**
- SWRK 135 - Human Behavior and the Social Environment **Units: 3**
- SWRK 136 - Cultural Diversity and Oppression **Units: 3**
- COUN 150 - Laws Relating to Children **Units: 3**
- COUN 174 - Introduction to Counseling **Units: 3**

- COUN 176 - Counseling and Mental Health **Units: 3**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total (120 units)*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. See advisor for details.

Advising Notes

1. CR/NC grading is not permitted for CSDS 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 CSDS 110, CSDS 162, CSDS 163, CSDS 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).

Deaf Studies - Interpreting Option, B.A.

Bachelor of Arts Degree Requirements

Major Requirements for the Interpreting Option (49 units)

- CSDS 66 - Introduction to Interpreting **Units: 3**
- CSDS 80 - Introduction to Human Communication and Disorders **Units: 3**

- CSDS 91 - American Sign Language I **Units: 3**
- CSDS 92 - American Sign Language II **Units: 3**
- CSDS 93 - American Sign Language III **Units: 4**
- CSDS 94S - American Sign Language IV **Units: 4**
- CSDS 95 - Introduction to Speech and Language Development **Units: 3**
- CSDS 96 - Linguistics of American Sign Language **Units: 3**
- CSDS 106 - ASL and English Grammar: Comparative Analysis **Units: 3**
- CSDS 136S - American Sign Language V with Service Learning **Units: 3**
- CSDS 137 - American Sign Language V Lab **Units: 1**
- CSDS 139 - Deaf Culture **Units: 3**
- CSDS 141 - Education of Deaf Children and Their Parents **Units: 3**
- CSDS 168 - Observations in Sign Language Studies **Units: 3**
- CSDS 169 - Theory & Proc SL Interpreting **Units: 3**
- CSDS 170 - Comparative Linguistic Analysis in Sign Language Interpreting **Units: 3**
- CSDS 175I - Internship in Interpreting **Units: 4**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total: 120 Units*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. See advisor for details.

Advising Notes

1. CR/NC grading is not permitted for CSDS 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 CSDS 110, CSDS 162, CSDS 163, CSDS 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).

Economics, B.A.

Bachelor of Arts Degree

Requirements

ECON 40 and ECON 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 - Principles of Microeconomics **Units: 3**
- ECON 50 - Principles of Macroeconomics **Units: 3**

Upper-Division:

- ECON 100A - Intermediate Microeconomics **Units: 3**
- ECON 100B - Intermediate Macroeconomics **Units: 3**
- ECON 123 - Introduction to Econometrics **Units: 3**
- ECON 192 - Senior Project **Units: 3**

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 - Introduction to Business Cycles **Units: 3**
- ECON 114 - Economic Development of Poor Nations **Units: 3**
- ECON 135 - Money and Banking **Units: 3**
- ECON 178 - International Economics **Units: 3**

- ECON 188T - Topics in Macro and International Economics **Units: 1-3**

Category II. Microeconomics Courses (3 units minimum)

- ECON 117 - Environmental Economics **Units: 3**
- ECON 119 - Urban & Regional Economics **Units: 3**
- ECON 131 - Public Economics **Units: 3**
- ECON 144 - Economics of Sports **Units: 3**
- ECON 150 - Labor Economics **Units: 3**
- ECON 162 - Health Economics **Units: 3**
- ECON 189T - Topics in Microeconomics **Units: 1-3**

Category III. Historical and Political Economics Courses (3 units minimum)

- ECON 101 - History of Economic Thought **Units: 3**
- ECON 110 - Economic History of the United States **Units: 3**
- ECON 111 - European Economic History **Units: 3**
- ECON 179 - International Political Economy **Units: 3**
- ECON 181 - Political Economy of Latin America **Units: 3**
- ECON 183 - Political Economy of the Middle East **Units: 3**
- ECON 115T - Topics in Historical and Political Economics **Units: 1-3**

Category IV. Cross-cutting Economics Courses

- ECON 102W - Explorations in Economic Literature **Units: 3**
- ECON 120 - Women in the Economy **Units: 3**
- ECON 125 - Introduction to Mathematical Methods for Economics **Units: 3**
- ECON 146 - Economics of Crime **Units: 3**
- ECON 152 - Economics of Human Resources **Units: 3**
- ECON 167 - Contemporary Socioeconomic Challenges **Units: 3**
- ECON 176 - Economics Themes in Film **Units: 3**

Category V. Special Courses (3 units maximum)

- ECON 185 - Directed Readings **Units: 1-3**
- ECON 190 - Independent Study **Units: 1-3**
- ECON 191I - Internship in Applied Economics **Units: 1-3**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2))
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. See advisor for details.

Advising Notes

1. Residency requirement: complete at least 50% of the required Economics units in the Craig School of Business.
2. A grade of C or better must be earned for each course used to satisfy the requirements for the major.
3. CR/NC grading is not permitted in the economics major or minor, except for courses offered only under CR/NC grading.
4. 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.

Bachelor of Science Degree Requirements

Major Requirements (71 units) and Additional Requirements (38-40 units)

Major Core Requirements (60 units)

- ECE 1 - Introduction to Electrical and Computer Engineering **Units: 1**
- ECE 71 - Introduction to Computational Programming **Units: 3**
- ECE 72 - Introduction to Electrical and Computer Engineering Tools **Units: 2**
- ECE 85 - Digital Logic Design **Units: 3**

- ECE 85L - Digital Logic Design Laboratory **Units: 1**
- ECE 90 - Principles of Electrical Circuits **Units: 3**
- ECE 90L - Principles of Electrical Circuits Laboratory **Units: 1**
- ECE 102 - Advanced Circuit Analysis **Units: 3**
- ECE 103E - Professional Development Skills **Units: 1**
- ECE 111 - Fundamental Principles of Optical Engineering **Units: 3**
- ECE 118 - Microprocessor Architecture and Programming **Units: 3 (Area ID)**
- ECE 118L - Microcontroller Laboratory **Units: 1**
- ECE 121 - Electromechanical Systems and Energy Conversion **Units: 3**
- ECE 124 - Signal and Systems **Units: 3**
- ECE 124L - Signal and Systems Lab **Units: 1**
- ECE 125 - Probabilistic Engineering Systems Analysis **Units: 3**
- ECE 126 - Electromagnetic Theory and Applications I **Units: 3**
- ECE 128 - Electronics I **Units: 3**
- ECE 128L - Electronics I Laboratory **Units: 1**
- ECE 134 - Analog and Digital Communication Engineering **Units: 3**
- ECE 138 - Electronics II **Units: 3**
- ECE 138L - Electronics II Laboratory **Units: 1**
- ECE 155 - Control Systems **Units: 3**
- ECE 186A - Senior Design I **Units: 1**
- ECE 186B - Senior Design II **Units: 3 (Area IB)**

Select One From

- CE 29 - Engineering Mechanics **Units: 3**
- ME 29 - Engineering Mechanics **Units: 3**
- ME 136 - Thermodynamics **Units: 3**

Technical Area Courses (11 units)

Select from the following:

- ECE 106 - Switching Theory and Logical Design **Units: 3**
- ECE 107 - Digital Signal Processing **Units: 3**
- ECE 114 - Physical Electronics **Units: 3**
- ECE 115 - Computer Organization **Units: 3**
- ECE 132 - Design of Digital Systems **Units: 3**
- ECE 135 - Wireless Communication Systems **Units: 3**
- ECE 136 - Electromagnetic Theory and Applications II **Units: 3**
- ECE 140 - VLSI System Design **Units: 3**
- ECE 141 - Algorithmic Computations **Units: 3**
- ECE 141L - Algorithmic Computations Laboratory **Units: 1**
- ECE 144 - Embedded Operating Systems **Units: 3**
- ECE 146 - Computer Networks **Units: 3**

- ECE 148 - Analysis and Design of Digital Circuits **Units: 3**
- ECE 151 - Electrical Power Systems **Units: 3**
- ECE 152 - Power Systems Protection and Control **Units: 3**
- ECE 153 - Power Electronics **Units: 3**
- ECE 162 - Analog Integrated Circuits and Applications **Units: 3**
- ECE 166 - Microwave Devices and Circuits Design **Units: 3**
- ECE 168 - Microwave Amplifier and Oscillator Design **Units: 3**
- ECE 171 - Quantum Electronics **Units: 3**
- ECE 176 - Advanced Digital Logic Design **Units: 3**
- ECE 172 - Fundamentals of Machine Learning **Units: 3**
- ECE 173 - Robotics Fundamentals **Units: 3**
- ECE 174 - Advanced Computer Architecture **Units: 3**
- ECE 178 - Embedded Systems **Units: 4**

Select at Least Two From the Following:

- ECE 119L - Programmable Logic Controllers **Units: 1**
- ECE 121L - Electromechanical Systems and Energy Conversion Laboratory **Units: 1**
- ECE 134L - Communication Engineering Lab **Units: 1**
- ECE 136L - Electromagnetic Theory and Applications **Units: 1**
- ECE 155L - Control Systems Lab **Units: 1**

Additional Requirements (38-40 units)

- BIOL 10 - Life Science **Units: 3 (Area B2)**
OR
- BIOL 1A - Introductory Biology **Units: 4 (Area B2)**
- CHEM 3A - Introductory General Chemistry **Units: 4 (Area B1)**
- ECON 40 - Principles of Microeconomics **Units: 3 (Area D2)**
OR
- ECON 50 - Principles of Macroeconomics **Units: 3 (Area D2)**
- MATH 75 - Calculus I **Units: 4 (Area B4)**
- MATH 76 - Calculus II **Units: 4**
- MATH 77 - Calculus III **Units: 4**
- MATH 81 - Elementary Differential Equations with Linear Algebra **Units: 3**
- PHIL 1 - Introduction to Philosophy **Units: 3 (Area C2)**
OR
- PHIL 10 - Self, Religion, and Society **Units: 3 (Area C2)**
- PHYS 4A - Mechanics and Wave Motion **Units: 3**
- PHYS 4B - Electricity, Magnetism, and Heat **Units: 3**

- PHYS 4BL - Laboratory in Electricity, Magnetism, and Heat **Units: 1**

Choose One From

- MATH 121 - Numerical Analysis I **Units: 3**
- MATH 123 - Mathematical Modeling **Units: 3**
- MATH 128 - Applied Complex Analysis **Units: 3**
- MATH 152 - Linear Algebra **Units: 4**
- MATH 171 - Intermediate Mathematical Analysis I **Units: 4**
- MATH 181 - Differential Equations **Units: 3**
- MATH 182 - Partial Differential Equations **Units: 3**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units) - *Engineering Majors are exempt from G.E. Areas A3, C1, the third C1/C2, E1, and IC*
- Multicultural and International (MI) - *Electrical Engineering majors are exempt from the MI requirement*
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total: 124 Units

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. These courses include MATH 75 (Area B4), CHEM 3A (Area B1), BIOL 10 or BIOL 1A (Area B2), PHIL 1 or PHIL 10 (Area C2), ECON 40 or ECON 50 (Area D2), ECE 186B (Area IB), and ECE 118 (Area ID). See advisor for details.

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 advisor for details).
3. All electrical engineering students must consult with their academic advisor at least once each year.
4. ENGR 101 may be taken instead of MATH 81.
5. The prerequisites for ECE 186A are ECE 102, ECE 118, ECE 124, ECE 128, ECE 128L; one lab from ECE 119L,

ECE 121L, ECE 134L, ECE 138L, ECE 155L; and two courses from ECE 121, ECE 134, ECE 138, ECE 155.

6. Students must enroll in and complete ECE 1 during the first two semesters of attendance at Fresno State.
7. The following prerequisite courses must be completed with a letter grade of C or better: ECE 71, ECE 72, ECE 85, ECE 85L, ECE 90, ECE 90L.
8. All prerequisites are enforced.

English - Creative Writing Option, B.A.

Bachelor of Arts Degree Requirements

Each student seeking a Bachelor of Arts with a major in English must fulfill the lower-division core, upper-division core, and all requirements listed under the English major degree option. Students also must fulfill the university's General Education requirements (48 units). The English Department requires two college-level courses in the same foreign language (or equivalent) for all English major degree options (see Advising Note 2).

Major Requirements (52 units)

Lower-Division Core (8 units)

- ENGL 31 - Readings in British Literature **Units: 4**
- ENGL 32 - Readings in American Literature **Units: 4**

Upper-Division Core (20 units)

- ENGL 105 - Textual Analysis **Units: 4**
- ENGL 106W - Writing in English Studies **Units: 4**
- ENGL 179 - Multi-Ethnic Literature and Writing **Units: 4**
- ENGL 193 - Seminar in English Studies **Units: 4**
- ENGL 195 - Senior Seminar **Units: 4**

Creative Writing Option (24 units)

- ENGL 165 - Craft and Technique in Creative Writing **Units: 4**
- ENGL 166 - Literary Publishing and Editing **Units: 4**

Choose One Additional Literature of Diversity Course (4 units):

- ENGL 141 - African American Masterpieces of American Literature **Units: 4**

- ENGL 142 - American Indian Masterpieces of American Literature **Units: 4**
- ENGL 143 - Asian American Masterpieces of American Literature **Units: 4**
- ENGL 144 - Masterpieces of Chicana Literature **Units: 4**
- ENGL 168T - Women and Literature **Units: 4**
- ENGL 173 - Cultural Rhetoric(s) **Units: 4**
- ENGL 178 - Lesbian & Gay Literature **Units: 4**

Choose Three (Repeatable) Courses (12 units):

- ENGL 161 - Advanced Writing of Poetry **Units: 4**
- ENGL 163 - Advanced Writing of Fiction **Units: 4**
- ENGL 164 - Advanced Writing of Creative Nonfiction **Units: 4**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. This includes ENGL 106W for the upper-division writing. See advisor for details.

Advising Notes

1. A single course may fulfill the requirement in more than one of the above content categories, with approval of the program advisor, but will not reduce the number of total units required for the major.
2. The language requirement may be fulfilled by a sequence of two semesters of the same language. However, if a student demonstrates advanced proficiency by completing the final course in a language sequence (e.g., the fourth semester course in a language), or an advanced reading course, that single course may fulfill this requirement with the approval of the faculty advisor.
3. CR/NC grading is not permitted in the English major with the exception of 2 units total of ENGL 186I.

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 advisor for further information.
5. Courses counted to fulfill a minor cannot also be used to fulfill major requirements.
6. ENGL 105 and ENGL 106W provide a basis for most Upper Division coursework. Therefore, those classes should be completed by first semester of a student's Junior year, or as soon as possible thereafter.
7. English majors considering eventual graduate degrees should consult the graduate advisor.

English - Literature Option, B.A.

Bachelor of Arts Degree Requirements

Each student seeking a Bachelor of Arts with a major in English must fulfill the lower-division core, upper-division core, and all requirements listed under the English major degree option. Students also must fulfill the university's General Education requirements (48 units). The English Department requires two college-level courses in the same foreign language (or equivalent) for all English major degree options (see Advising Note 2).

Major Requirements (52 units)

Lower-Division Core (8 units)

- ENGL 31 - Readings in British Literature **Units: 4**
- ENGL 32 - Readings in American Literature **Units: 4**

Upper-Division Core (20 units)

- ENGL 105 - Textual Analysis **Units: 4**
- ENGL 106W - Writing in English Studies **Units: 4**
- ENGL 179 - Multi-Ethnic Literature and Writing **Units: 4**
- ENGL 193 - Seminar in English Studies **Units: 4**
- ENGL 195 - Senior Seminar **Units: 4**

Literature Option (24 units)

Choose One Additional Literature of Diversity Course (4 units):

- ENGL 141 - African American Masterpieces of American Literature **Units: 4**
- ENGL 142 - American Indian Masterpieces of American Literature **Units: 4**

- ENGL 143 - Asian American Masterpieces of American Literature **Units: 4**
- ENGL 144 - Masterpieces of Chicana Literature **Units: 4**
- ENGL 168T - Women and Literature **Units: 4**
- ENGL 173 - Cultural Rhetoric(s) **Units: 4**
- ENGL 178 - Lesbian & Gay Literature **Units: 4**

Choose One Early Literature Course (4 units):

- ENGL 112 - World Literature: Ancient **Units: 4**
- ENGL 113 - World Literature: Medieval and Renaissance **Units: 4**
- ENGL 146 - Medieval Literature **Units: 4**
- ENGL 147 - English Renaissance Literature **Units: 4**

Choose One 17th - 19th Century Literature (4 units):

- ENGL 114 - World Literature: Modern **Units: 4**
- ENGL 150 - Restoration and 18th Century Literature **Units: 4**
- ENGL 151 - British Romantic Literature **Units: 4**
- ENGL 152 - Victorian Literature **Units: 4**
- ENGL 153 - American Literature to 1865 **Units: 4**

Choose One Literature of Modernity (4 units):

- ENGL 118 - World Literature: Modern and Contemporary **Units: 4**
- ENGL 154 - American Literature 1865 to World War I **Units: 4**
- ENGL 155 - Modern and Contemporary American Literature **Units: 4**
- ENGL 156 - Modern and Contemporary British Literature **Units: 4**

Genre:

- ENGL 169T - Forms of Literature **Units: 1-4**
OR
- ENGL 176T - Topics in Genre Film: Form and Function **Units: 1-4**

Author:

- ENGL 188T - Single Author **Units: 4**
OR
- ENGL 189 - Shakespeare **Units: 4**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. This includes ENGL 106W for the upper-division writing. See advisor for details.

Advising Notes

1. A single course may fulfill the requirement in more than one of the above content categories, with approval of the program advisor, but will not reduce the number of total units required for the major.
2. The language requirement may be fulfilled by a sequence of two semesters of the same language. However, if a student demonstrates advanced proficiency by completing the final course in a language sequence (e.g., the fourth semester course in a language), or an advanced reading course, that single course may fulfill this requirement with the approval of the faculty advisor.
3. CR/NC grading is not permitted in the English major with the exception of 2 units total of ENGL 186I.
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 advisor for further information.
5. Courses counted to fulfill a minor cannot also be used to fulfill major requirements.
6. ENGL 105 and ENGL 106W provide a basis for most Upper Division coursework. Therefore, those classes should be completed by first semester of a student's Junior year, or as soon as possible thereafter.
7. English majors considering eventual graduate degrees should consult the graduate advisor.

English Studies, B.A.

Bachelor of Arts Degree Requirements

The English Studies 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 complete English courses; courses in subjects related to language arts education such as literacy studies, drama, speech communication, and linguistics; and chose one Extended Area of Emphasis from the following:

- Rhetoric and Writing Studies
- Creative Writing
- Linguistics
- Literature
- Speech
- Theatre

Major Requirements (54-56 units)

Lower-Division Core (8 units)

- ENGL 31 - Readings in British Literature **Units: 4**
- ENGL 32 - Readings in American Literature **Units: 4**

Upper Division Core (34 units)

- ENGL 105 - Textual Analysis **Units: 4**
- ENGL 131 - Literacy Studies **Units: 4**
- ENGL 132S - Rhetoric, Grammar, and Writing Instruction **Units: 4**
- ENGL 133 - Texts Teachers Teach **Units: 4**
- ENGL 193 - Seminar in English Studies **Units: 4**
- ENGL 197 - Senior Project in English Studies **Units: 1**
- DRAMA 138A - Children's Theatre **Units: 3**
- LING 141 - TESOL/SLAT (Second Language Acquisition & Teaching) **Units: 3**

Select One Course:

- COMM 103 - Advanced Public Speaking **Units: 3**
- COMM 105 - Argumentation Theory **Units: 3**
- COMM 114 - Communication and Learning **Units: 3**
- COMM 115 - Advanced Forensics Laboratory **Units: 3** (3 units of COMM 115 are required)

Literature of Diversity (4 units)

Select one approved course:

- ENGL 112 - World Literature: Ancient **Units: 4**
- ENGL 113 - World Literature: Medieval and Renaissance **Units: 4**

- ENGL 114 - World Literature: Modern **Units: 4**
- ENGL 141 - African American Masterpieces of American Literature **Units: 4**
- ENGL 142 - American Indian Masterpieces of American Literature **Units: 4**
- ENGL 143 - Asian American Masterpieces of American Literature **Units: 4**
- ENGL 144 - Masterpieces of Chicanx Literature **Units: 4**
- ENGL 167 - Mythology and Folklore **Units: 4**
- ENGL 168T - Women and Literature **Units: 4**
- ENGL 178 - Lesbian & Gay Literature **Units: 4**
- ENGL 179 - Multi-Ethnic Literature and Writing **Units: 4**

Extended Studies (12-14 units)

Select one of the following English Studies major extended studies emphases:

Literature Emphasis (12 units)

American Literature (4 units)

Select one (not used for any other requirement):

- ENGL 153 - American Literature to 1865 **Units: 4**
- ENGL 154 - American Literature 1865 to World War I **Units: 4**
- ENGL 155 - Modern and Contemporary American Literature **Units: 4**
- ENGL 179 - Multi-Ethnic Literature and Writing **Units: 4**
- Other approved upper-division American literature course Literature electives **Units: 8**

Select a Minimum of Two Approved Courses:

- ENGL 112 - World Literature: Ancient **Units: 4**
- ENGL 113 - World Literature: Medieval and Renaissance **Units: 4**
- ENGL 114 - World Literature: Modern **Units: 4**
- ENGL 115W - Literature of the New Testament **Units: 3**
- ENGL 116 - Literature of the Old Testament **Units: 4**
- ENGL 141 - African American Masterpieces of American Literature **Units: 4**
- ENGL 142 - American Indian Masterpieces of American Literature **Units: 4**
- ENGL 143 - Asian American Masterpieces of American Literature **Units: 4**
- ENGL 144 - Masterpieces of Chicanx Literature **Units: 4**
- ENGL 146 - Medieval Literature **Units: 4**
- ENGL 147 - English Renaissance Literature **Units: 4**
- ENGL 150 - Restoration and 18th Century Literature **Units: 4**
- ENGL 151 - British Romantic Literature **Units: 4**

- ENGL 152 - Victorian Literature **Units: 4**
- ENGL 153 - American Literature to 1865 **Units: 4**
- ENGL 154 - American Literature 1865 to World War I **Units: 4**
- ENGL 155 - Modern and Contemporary American Literature **Units: 4**
- ENGL 156 - Modern and Contemporary British Literature **Units: 4**
- ENGL 167 - Mythology and Folklore **Units: 4**
- ENGL 168T - Women and Literature **Units: 4**
- ENGL 169T - Forms of Literature **Units: 1-4**
- ENGL 171 - Biography and Autobiography **Units: 4**
- ENGL 177 - Literature, Cinema and the Liberal Arts **Units: 4**
- ENGL 178 - Lesbian & Gay Literature **Units: 4**
- ENGL 179 - Multi-Ethnic Literature and Writing **Units: 4**
- ENGL 181 - Literary Theory and Criticism **Units: 4**
- ENGL 188T - Single Author **Units: 4**
- ENGL 189 - Shakespeare **Units: 4**

Rhetoric and Writing Studies Emphasis (12 units)

- ENGL 70 - Public Writing and Argument **Units: 4**

Select Two:

- ENGL 172 - Advanced Rhetoric and Composition **Units: 4**
- ENGL 173 - Cultural Rhetoric(s) **Units: 4**
- ENGL 175T - Topics in Rhetoric and Writing Studies **Units: 4**

Creative Writing Emphasis (12 units)

Select One:

- ENGL 41 - Poetry Writing **Units: 4**
- ENGL 43 - Fiction Writing **Units: 4**
- ENGL 44 - Creative Nonfiction Writing **Units: 4**

Select Two:

- ENGL 161 - Advanced Writing of Poetry **Units: 4**
- ENGL 163 - Advanced Writing of Fiction **Units: 4**
- ENGL 164 - Advanced Writing of Creative Nonfiction **Units: 4**
- ENGL 165 - Craft and Technique in Creative Writing **Units: 4**
- ENGL 166 - Literary Publishing and Editing **Units: 4**

Linguistics Emphasis (12 units)

- LING 100 - General Linguistics **Units: 3**
- LING 146 - Practical English Grammar for Language Teachers **Units: 3**

Select Two Courses in ONE of the Following Sequences: (6 units)

Language Awareness Sequence:

- LING 132 - Linguistics and Reading **Units: 3**
- LING 138 - History of the English Language **Units: 3**
- LING 139 - General Phonetics **Units: 3**
- LING 142 - Phonology **Units: 3**
- LING 143 - Syntax **Units: 3**
- LING 144 - Discourse Analysis **Units: 3**
- LING 145 - Historical Linguistics **Units: 3**
- LING 148 - Sociolinguistics **Units: 3**

Teaching English as a Second Language Sequence:

- LING 132 - Linguistics and Reading **Units: 3**
- LING 147 - Bilingualism **Units: 3**
- LING 155 - Computer Assisted Language Learning **Units: 3**
- LING 165 - Language Acquisition **Units: 3**
- LING 171I - Practicum in TESOL/SLAT **Units: 3**

Theatre Emphasis (14 units)

*Requires DRAMA 115 to be taken concurrently.

- DRAMA 32 - Introduction to Acting **Units: 3**
OR
- DRAMA 33 - Fundamentals of Acting **Units: 3**
- DRAMA 34 - Theatre Crafts **Units: 3**
- DRAMA 110 - Design for the Theatre **Units: 3 ***
- DRAMA 115 - Dramatic Arts Laboratory **Units: 1-2**
- DRAMA 185 - History of the Theatre and Drama I **Units: 3**
OR
- DRAMA 186 - History of the Theatre and Drama II **Units: 3**

Speech Emphasis (12 units)

Select Two:

- COMM 3 - Fundamentals of Public Communication **Units: 3**
- COMM 5 - Argumentation **Units: 3**
- COMM 7 - Persuasion **Units: 3**
- COMM 8 - Group Discussion **Units: 3**

Select Two:

- COMM 108 - Communication and the Small Group **Units: 3**
- COMM 162 - Interpersonal Communication **Units: 3**
- COMM 164 - Intercultural Communication **Units: 3**

Additional Requirements (10 - 12 units)

- 2 college level courses in foreign language **Units: 6-8**
- ENGL 106W - Writing in English Studies **Units: 4**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. See advisor for details.

Advising Notes:

The major in English Studies is a California state-approved program preparing students for a career teaching English Language Arts at the middle and high school levels. In addition to core courses, students also choose one extended studies emphasis from the following areas: Creative Writing, Rhetoric and Writing Studies, Speech, Theater, and Linguistics.

The language requirement may be fulfilled by a sequence of two semesters of the same language. However, if a student demonstrates advanced proficiency by completing the final course in a language sequence (e.g., the fourth semester course in a language), or an advanced reading course, that single course may fulfill this requirement with the approval of the faculty advisor.

The writing requirement may be met by taking ENGL 106W. Courses may double-count in G.E. and the major.

Recommended G.E. courses for all English credential majors are as follows:

G.E. Area C1 - DRAMA 22, DRAMA 62; ENGL 41, ENGL 43, ENGL 44

G.E. Area C2 - LING 10 or foreign language courses

G.E. Area E - DRAMA 32

G.E. Area IC - ENGL 101, ENGL 102, ENGL 103, ENGL 112, ENGL 113, ENGL 114, ENGL 174; DRAMA 163; PHIL 120, PHIL 150 or PHIL 151

G.E. Area ID - MCJ 178

Area MI - LING 147

To demonstrate Subject Matter Competency in the state of California through the Fresno State English Studies major, students must:

receive grades of either A or B in ENGL 105, ENGL 131, and ENGL 193;

complete and earn the B.A. in English Studies with an average 3.0 GPA or better in major coursework; and

complete and pass a reflective portfolio and interview process covering four state-mandated areas of English Studies.

To be eligible to enter the Fresno State Credential Program 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;

complete CI 149 - Curriculum, Instruction, and Technology in Secondary Classrooms

demonstrate basic skills by passing the CBEST;

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 Studies OR by passing the state CSET (exam) in English

Enology, B.S.

Bachelor of Science Degree Requirements

Major Requirements (60 units)

- CHEM 8 - Elementary Organic Chemistry **Units: 3**
OR
- CHEM 3B - Introductory Organic and Biochemistry **Units: 3**
- CHEM 150 - General Biochemistry **Units: 3**
OR
- ENOL 168 - Introduction to Vine, Grape and Yeast Biochemistry **Units: 3**
- ENOL 15 - Introduction to Enology **Units: 3**
- ENOL 45 - Wine Evaluation Techniques **Units: 3**
- ENOL 105 - Advanced Sensory Evaluation of Wines **Units: 3**
- ENOL 110 - Grape and Wine Chemistry **Units: 3**

- ENOL 115 - Analytical Methods for Wine I **Units: 4**
- ENOL 125 - Wine Microbiology **Units: 4**
- ENOL 140 - Regulations: Wine and Brandy **Units: 2**
- ENOL 151 - Winery Equipment **Units: 2**
- ENOL 163 - Fermentation **Units: 3**
- ENOL 164 - Wine Analysis and Production **Units: 4**
- ENOL 166 - Cellar Operations **Units: 3**
- ENOL 170E - Wine Business **Units: 3**
- ENOL 173 - Wine Marketing **Units: 3**
- ENOL 175 - Winery Management **Units: 3**
- ENOL 194I - Wine Industry Internship **Units: 2-4** (for 4 units)
- ENOL 199 - Undergraduate Seminar **Units: 1** (for 1 unit)
- VIT 15 - Introduction to Viticulture **Units: 3**
- VIT 100 - Viticulture and Enology Research Methods **Units: 3**
- OR
- PLANT 99 - Introduction to Biometrics **Units: 3**

Additional Requirements (21 units)

- AGBS 1 - Introductory Agricultural Economics **Units: 3** (Area D2)
- BIOL 11 - Plant Biology **Units: 3** (Area B2)
- CHEM 3A - Introductory General Chemistry **Units: 4** (Area B1)
- MATH 11 - Elementary Statistics **Units: 3** (Area B4)

Select 8 Units in Consultation with Faculty Advisor from the Following Courses:

- CHEM 1A - General Chemistry 1A **Units: 3**
- CHEM 1AL - General Chemistry Laboratory 1A **Units: 2**
- CHEM 1B - General Chemistry 1B **Units: 3**
- AND
- CHEM 1BL - General Chemistry Laboratory 1B **Units: 2** (see note 1)
- BIOL 161 - Plant Physiology **Units: 4**
- OR
- PLANT 100 - Aspects of Crop Productivity **Units: 3**
- IT 118 - Production Operations **Units: 3**
- ENOL 190 - Independent Study **Units: 1-3**
- SPAN 1A - Elementary Spanish **Units: 4**
- PLANT 110W - Dimensions in Agriculture **Units: 3**
- PLANT 172 - Soils **Units: 3**
- PLANT 172L - Soils Lab **Units: 1**
- VIT 101 - General Viticulture I **Units: 3**
- VIT 102 - General Viticulture II **Units: 3**

- VIT 106 - Winegrape Production **Units: 2**
- VIT 165 - Ampelography Grape Genetics **Units: 3**
- VIT 167 - Vineyard Ecology and Organic Production **Units: 3**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI) - *Enology majors are exempt from the MI requirement*
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. These courses include CHEM 3A (Area B1), BIOL 11 (Area B2), MATH 11 (Area B4), and AGBS 1 (Area D2). See advisor for details.

Advising Notes

Students must take either CHEM 3A or CHEM 1A, CHEM 1AL, CHEM 1B and CHEM 1BL to meet the prerequisite requirements for other chemistry courses required within the degree.

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 advisor.

Students meet with their academic advisors prior to registration each fall semester.

General Education courses designated as required by the department are prerequisites to many courses in the program of study.

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.

Students can take PLANT 110W and pass with a grade of C or higher to meet the Upper-Division Writing Requirement.

Viticulture students are encouraged to become certified crop scientists/specialists and pest control advisors (PCAs). Students should consult their faculty advisor for additional requirements for certification.

All courses listed under the major and additional requirements require a grade of C or better. CR/NC grading is not permitted for courses included in the major, except for ENOL 194I.

Environmental Sciences, B.S.

Bachelor of Science Degree Requirements

Major Requirements (46-47 units)

Lower-Division Requirements:

- EES 1 - Natural Disasters and Earth Resources **Units: 4**
- EES 4 - Environmental Science **Units: 4** (see note 1)
- EES 12 - Mineralogy **Units: 3**
- EES 31 - Environmental Sampling Methods **Units: 3**

Upper-Division Requirements:

- EES 102S - Sedimentology **Units: 4**
- EES 104W - Scientific Writing and Research Techniques **Units: 3**
- EES 108 - Soil and Water Sciences **Units: 4**
- EES 109 - Atmospheric Science **Units: 3**
- EES 115S - Climate Change Solutions **Units: 3**
- EES 124 - Geochemistry **Units: 3**
- EES 186 - Environmental GIS **Units: 3**

Select two from (6-7 units):

- EES 105 - Geomorphology **Units: 3**
- EES 110 - Invertebrate Paleontology **Units: 3**
- EES 114 - Engineering Geology **Units: 3**
- EES 117 - Hydrogeology **Units: 3**
- EES 118 - Applied Geophysics **Units: 3**
- EES 122 - Stratigraphy **Units: 3**
- EES 125 - Global Paleoclimates **Units: 3**
- EES 187 - Biogeochemistry **Units: 4**

Select one from (3 units):

- EES 191 - Environmental Science Capstone **Units: 3**
- EES 199 - Undergraduate Thesis **Units: 3**
- EES 199I - Undergraduate Internship **Units: 3**
- EES 199S - Undergraduate Thesis through Service Learning **Units: 3**

Additional Requirements (29-30 units)

- BIOL 1A - Introductory Biology **Units: 4**
- BIOL 1B - Introductory Biology **Units: 3**
- BIOL 1BL - Introductory Biology Laboratory **Units: 1**
- CHEM 1A - General Chemistry 1A **Units: 3**
- CHEM 1AL - General Chemistry Laboratory 1A **Units: 2**
- CHEM 1B - General Chemistry 1B **Units: 3**
- CHEM 1BL - General Chemistry Laboratory 1B **Units: 2**
- PHYS 2A - General Physics **Units: 4**
- OR
- PHYS 4A - Mechanics and Wave Motion **Units: 3**
- PHYS 4AL - Laboratory in Mechanics and Wave Motion **Units: 1**

- MATH 75 - Calculus I **Units: 4**

Choose One of the Following:

- MATH 76 - Calculus II **Units: 4**
- MATH 101 - Statistical Methods **Units: 4**
- PSYCH 42 - Introductory to Statistics and Data Analysis **Units: 4** (see note 2)
- EES 177 - Quantitative Methods for Earth Science **Units: 3**
- EES 178 - Geostatistics **Units: 3**

Controlled Electives (6 - 7 units)

Choose two of the following:

- BIOL 101 - General Ecology **Units: 3**
- BIOL 110 - Human Ecology **Units: 3**
- BIOL 120 - Microbiology **Units: 3**
- BIOL 170 - Microbial Ecology **Units: 4**
- BIOL 171 - Terrestrial Ecology **Units: 4**
- BIOL 172 - Aquatic Ecology **Units: 4**
- BIOL 173 - Marine Biology **Units: 3**
- BIOL 176 - Field Methods Ecology **Units: 3**
- CHEM 8 - Elementary Organic Chemistry **Units: 3**
- CHEM 102 - Quantitative Analytical Chemistry **Units: 5**
- CHEM 105 - Quantitative Analysis Laboratory **Units: 4**
- CHEM 106 - Analytical Measurements Laboratory **Units: 4**
- CHEM 106S - Instrumental Analysis in Industrial Settings **Units: 4**
- CHEM 125 - Applied Analytical Techniques **Units: 3**
- CHEM 128A - Organic Chemistry **Units: 3**
- CHEM 128B - Organic Chemistry **Units: 3**
- CHEM 150 - General Biochemistry **Units: 3** (see note 3)
- CRP 125 - Environmental Planning **Units: 3**
- GEOG 129 - Environmental Impact Assessment **Units: 3**

- GEOG 132 - United States Environmental Law **Units: 3**
- GEOG 139T - Environmental Regions **Units: 3**

General Education Requirements (48 units)

The following G.E. Areas are double-counted in the major: B1, B2, B4, IB, ID.

Other Requirements (9 units)

American Government and Institutions (PLSI 2), Multicultural and International (MI), and Upper-division writing. Note: EES 104W meets the Upper-Division Writing requirement.

Total Units: 120

* Sufficient elective units to meet required total units (varies)

Advising Notes:

G.E. Foundation B4 is a prerequisite except for declared college of science and math major students.

PSYCH 42 is a prerequisite for BIOL 101.

BIOL 101 is a prerequisite for BIOL 170-BIOL 172.

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 advisor for further information.

Students planning to pursue graduate study are strongly encouraged to take MATH 76 or EES 177 or EES 180

Exercise Science, B.S.

Bachelor of Science Degree Requirements

Exercise Science Major Requirements (65-69 units)

Major Core Requirements

- KINES 1 - Introductory Principles and Techniques for Physical Fitness Development **Units: 3**
- KINES 32 - Lifetime Fitness and Wellness **Units: 2**
- KINES 33 - Foundation of Sport Exercise Psychology **Units: 3**
- KINES 109 - Motor Learning **Units: 3**
OR

- KINES 110 - Motor Development **Units: 3**
- KINES 116 - Fundamentals of Biomechanics **Units: 3**
- KINES 118 - Fundamentals of Exercise Physiology **Units: 3**
- KINES 119 - ECG and Clinical Exercise Physiology **Units: 3**
- KINES 121 - Body Composition: Theory, Principles and Management **Units: 3**
- KINES 137 - Structural Biomechanics **Units: 3**
- KINES 163 - Fitness and Wellness **Units: 3**
- KINES 165 - Performance Related Fitness **Units: 3**
- KINES 167 - Integrative Exercise Science **Units: 3**

- BIOL 33 - Introductory Human Anatomy and Physiology **Units: 5**

OR

- BIOL 67A - Human Anatomy & Physiology I **Units: 4**
AND
- BIOL 67B - Human Anatomy and Physiology II **Units: 4**

- Select any KAC or ATHL 100 course (1 unit)

Select 15 - 24 elective units (16 units for associate degree for transfer) from

- Any KINES academic course, other than those required in the major;
- Any KAC activity course (no more than 3 additional KAC courses can be applied to the major; repeated KAC course cannot be counted);
- BIOL 1A - Introductory Biology **Units: 4**
- BIOL 1B - Introductory Biology **Units: 3**
- BIOL 1BL - Introductory Biology Laboratory **Units: 1**
- BIOL 10 - Life Science **Units: 3**
- BIOL 20 - Introductory Microbiology **Units: 4**
- BIOL 102 - Genetics **Units: 3**
- BIOL 103 - Cellular Biology **Units: 3**
- BIOL 144 - Neuroanatomy **Units: 4**
- BIOL 166 - Neurophysiology **Units: 3**
- CHEM 1A - General Chemistry 1A **Units: 3**
- CHEM 1AL - General Chemistry Laboratory 1A **Units: 2**
- CHEM 1B - General Chemistry 1B **Units: 3**
- CHEM 1BL - General Chemistry Laboratory 1B **Units: 2**
- CHEM 3A - Introductory General Chemistry **Units: 4**
- CHEM 3B - Introductory Organic and Biochemistry **Units: 3**
- CHEM 3BL - Introductory Organic and Biochemistry Laboratory **Units: 1**
- CHEM 8 - Elementary Organic Chemistry **Units: 3**
- CHEM 128A - Organic Chemistry **Units: 3**
- CHEM 128B - Organic Chemistry **Units: 3**
- CHEM 129A - Organic Chemistry Laboratory **Units: 2**

- CHEM 129B - Organic Chemistry Laboratory **Units: 2**
- CHEM 150 - General Biochemistry **Units: 3**
- CHEM 155A - Fundamentals of Biochemistry **Units: 3**
- HHS 18A - Career Pathways in Health and Human Services **Units: 1**
- HHS 18B - Career Exploration and Collaboration in Health and Human Services **Units: 2**
- MATH 11 - Elementary Statistics **Units: 3**
- NUTR 53 - Nutrition and Health: Realities and Controversies **Units: 3**
- NUTR 147 - Nutrition and the Athlete **Units: 3**
- NUTR 153 - Advanced Nutrition **Units: 3**
- PH 48 - First Responder and Emergency Care **Units: 3**
- PH 92 - Public Health Statistics **Units: 3**
- PH 114 - Health Behavior **Units: 3**
- PH 128S - Holistic Health and Alternative Medicine **Units: 3**
- PH 141 - Applied Ergonomics **Units: 3**
- PH 109 - Epidemiology of Disease **Units: 3**
- PHYS 2A - General Physics **Units: 4**
- PHYS 2B - General Physics **Units: 4**
- PSYCH 10 - Introduction to Psychology **Units: 3**
- PSYCH 42 - Introductory to Statistics and Data Analysis **Units: 4**
- PSYCH 66 - Abnormal Psychology **Units: 3**
- PSYCH 155 - Developmental Psychology **Units: 4**
- PSYCH 169 - Psychological Aspects of Physical Disability **Units: 3**

see advising note 3

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. See advisor for details.

Advising Notes

With the assistance of the department advisor, 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.

Students majoring in Exercise Science 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 Exercise Science major is not allowed in any of these activity courses.

BIOL 20 or BIOL 1A; and CHEM 1A and CHEM 1AL or CHEM 3A with a C grade or better will meet the Major Electives Requirement and prerequisites for BIOL 67A

CR/NC grading is not permitted in courses for the Kinesiology major, except in those courses which are designated CR/NC grading only.

General Education, MI and elective units may be used toward a minor (see departmental minors) or supplemental credential. Consult the appropriate department chair, program coordinator, or advisor for further information.

Students interested in the athletic training option should consult the department regarding criteria for selection into this program.

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.

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.

The Bachelor of Science in Exercise Science 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 Bachelor of Science in Exercise Science requirements and will be required to declare a new major.

In compliance with Federal Requirements for Posting Licensure and Certification Eligibility, please see the CSU Chancellor's Office calstate.edu website.

Fashion Merchandising, B.A.

Bachelor of Arts Degree Requirements

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.

Major Requirements (46 units)

Fashion Merchandising Required Courses

- ACCT 4A - Financial Accounting Principles and Systems **Units: 3**
- ART 13 - Design **Units: 3 (Area E)**

- ECON 40 - Principles of Microeconomics **Units: 3 (Area D2)**
- OR
- AGBS 1 - Introductory Agricultural Economics **Units: 3 *** (Area D2)

- FM 20 - Textile Science **Units: 3**
- FM 21 - Fashion Merchandising Fundamentals **Units: 3**
- FM 120 - Social and Psychological Aspects of Clothing **Units: 3**
- FM 128 - Visual Merchandising **Units: 3**
- FM 134 - Fashion Retail Buying **Units: 3**
- FM 140E - Fashion Entrepreneurship **Units: 3**
- MCJ 147S - Digital and Social Media **Units: 3**
- MGT 104 - Administrative Principles of Management **Units: 3**
- MKTG 100S - Marketing Concepts **Units: 4**

- BA 105W - Business Communication **Units: 3**
- OR
- ENGL 160W - Writing Workshop **Units: 4**

Major Electives (6 units)

Select from:

- FM 126 - History of Costume, from Ancient Sumerians to 1900 **Units: 3**
- FM 127 - Fashion Merchandising **Units: 3**
- FM 130E - Fashion Study Tours **Units: 3**
- FM 133 - Textile/Apparel Economics **Units: 3**
- FM 190 - Fashion Merchandising Independent Study **Units: 1**
- FM 195I - Fashion Merchandising Internship **Units: 3**
- MKTG 101 - Marketing Research **Units: 4**
- MKTG 110 - Consumer Behavior **Units: 4**
- MKTG 114 - Principles of Logistics and Supply Chain **Units: 4**

- MKTG 130 - Retail Managing and Merchandising **Units: 4**
- MKTG 132 - Promotion Mix: Principles and Practices **Units: 4**
- MKTG 140 - Global Marketing **Units: 4**
- MKTG 153 - E-Marketing Technologies and Social Media **Units: 4**
- MKTG 160 - Professional Selling & Sales Force Management **Units: 4**
- MKTG 164 - Profitability and Pricing **Units: 2**
- MKTG 166 - Principles and Practices of Branding **Units: 2**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. See advisor for details.

Advising Notes

Students majoring in fashion merchandising 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.

Food Sciences - Culinology Option, B.S.

Bachelor of Science Degree Requirements

Major Requirements (58 units)

- CULG 50 - Culinary Science I **Units: 3**
- CULG 55 - Culinary Science II **Units: 3**

- CULG 65 - Culinary Science III **Units: 3**
- CULG 151 - Food Product Development **Units: 3**
- CULG 152 - Techniques for Healthy Cooking **Units: 3**
- FSC 1 - Introduction to Food Science and Technology **Units: 3**
- FSC 41 - Introduction to Food and Dairy Processing **Units: 3**
- FSC 100 - Sensory Evaluation **Units: 3**
- FSC 112 - Food and Dairy Chemistry **Units: 4**
- FSC 120 - Quality Assurance in the Food and Dairy Industries **Units: 3**
- FSC 125 - Food and Dairy Microbiology **Units: 4**
- FSC 178 - Food Laws, Regulations, Inspection, and Grading **Units: 3**
- FSC 199 - Senior Seminar **Units: 1**
- FSM 60 - Food Safety for Foodservice Professionals **Units: 1**
- FSM 131 - Introduction to Food Systems Management **Units: 3**
- FSM 133 - Quantity Food Production **Units: 3**
- FSM 134 - Cost Analysis in Food Systems Management **Units: 3**
- NUTR 53 - Nutrition and Health: Realities and Controversies **Units: 3 (Area E)**

Select 6 Units of Electives from the Following List:

- AGBS 1 - Introductory Agricultural Economics **Units: 3**
- AGBS 120 - Agribusiness Management **Units: 3**
- ASCI 1 - Introduction to Animal Science **Units: 3**
- ASCI 11 - Meat Animal Selection and Evaluation **Units: 3**
- ASCI 71 - Meat Science **Units: 3**
- ASCI 171 - Advance Meat Science **Units: 3**
- ASCI 172 - Meat Technology **Units: 3**
- AGED 66 - Agricultural Communications **Units: 3**
- FSC 115 - Food Analysis **Units: 3**
- FSC 141 - Fruit, Vegetable, and Edible Oil Processing **Units: 4**
- FSC 142 - Dairy Processing **Units: 4**
- FSC 193I - Supervised Work Experience **Units: 1-6**
- FSM 193I - Supervised Work Experience **Units: 1-6**
- IT 117 - Quality Assurance **Units: 3**
- ENOL 15 - Introduction to Enology **Units: 3**
- ENOL 45 - Wine Evaluation Techniques **Units: 3**
- PLANT 20 - Introduction to Crop Science **Units: 3**
- PLANT 30 - Introduction to Fruit Science **Units: 3**
- PLANT 123E - Vegetable Production **Units: 3**
- PLANT 124E - Organic Crop Production **Units: 3**
- or courses approved by the program coordinator.

Additional Requirements for Culinology (17 units)

- CHEM 3A - Introductory General Chemistry **Units: 4 (Area B1)**
- CHEM 8 - Elementary Organic Chemistry **Units: 3**
- CHEM 150 - General Biochemistry **Units: 3**
- BIOL 20 - Introductory Microbiology **Units: 4**
- MATH 11 - Elementary Statistics **Units: 3 (Area B4)**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. These courses include CHEM 3A (Area B1), MATH 11 (Area B4), and NUTR 53 (Area E). See advisor for details.

Advising Notes

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. Note: A minimum 2.3 GPA is required for on campus entry of the department options.

CR/NC grading is not permitted for courses included in the major and additional requirements, except work experience (FSC 193I ; FSM 193I ; and NUTR 193I).

Grade Policy - all courses listed under major and additional requirements require a grade of C or better.

General Education courses designated as required by the department are prerequisite to many courses in the program of study.

For further information related to the Registered Dietitian Nutritionist Career Specialty, see the Food Science and

Food Sciences - Food Technology Option, B.S.

Bachelor of Science Degree Requirements

Major Requirements (44 units)

- FSC 1 - Introduction to Food Science and Technology **Units: 3**
- FSC 41 - Introduction to Food and Dairy Processing **Units: 3**
- FSC 100 - Sensory Evaluation **Units: 3**
- FSC 112 - Food and Dairy Chemistry **Units: 4**
- FSC 115 - Food Analysis **Units: 3**
- FSC 120 - Quality Assurance in the Food and Dairy Industries **Units: 3**
- FSC 125 - Food and Dairy Microbiology **Units: 4**
- FSC 141 - Fruit, Vegetable, and Edible Oil Processing **Units: 4**
- FSC 142 - Dairy Processing **Units: 4**
- FSC 144 - Food Engineering **Units: 3**
- FSC 178 - Food Laws, Regulations, Inspection, and Grading **Units: 3**
- FSC 199 - Senior Seminar **Units: 1**
- NUTR 53 - Nutrition and Health: Realities and Controversies **Units: 3 (Area E)**

Select 3 Units of Electives from the Following List:

- ASCI 172 - Meat Technology **Units: 3**
- CULG 65 - Culinary Science III **Units: 3**
- CULG 151 - Food Product Development **Units: 3**
- ENOL 163 - Fermentation **Units: 3**
- FSC 190 - Independent Study **Units: 1-3**
- FSC 193I - Supervised Work Experience **Units: 1-6**
- FSM 60 - Food Safety for Foodservice Professionals **Units: 1**
- IT 105 - Fundamentals of Citrus Processing Lines **Units: 3**
- or courses approved by the food science program coordinator.

Additional Requirements (31 units)

- CHEM 1A - General Chemistry 1A **Units: 3 (Area B1)**
- CHEM 1AL - General Chemistry Laboratory 1A **Units: 2 (Area B1)**
- CHEM 1B - General Chemistry 1B **Units: 3**
- CHEM 1BL - General Chemistry Laboratory 1B **Units: 2**
- CHEM 8 - Elementary Organic Chemistry **Units: 3**
- CHEM 150 - General Biochemistry **Units: 3**
- MATH 11 - Elementary Statistics **Units: 3 (Area B4)**
- MATH 75 - Calculus I **Units: 4 (Area B4)**
- BIOL 20 - Introductory Microbiology **Units: 4**
- PHYS 2A - General Physics **Units: 4 (Area B1)**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. These courses include CHEM 1A and CHEM 1AL or PHYS 2A (Area B1), MATH 11 or MATH 75 (Area B4), and NUTR 53 (Area E). See advisor for details.

Advising Notes

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. Note: A minimum 2.3 GPA is required for on campus entry of the department options.

CR/NC grading is not permitted for courses included in the major and additional requirements, except work experience (FSC 193I; FSM 193I; and NUTR 193I).

Grade Policy - all courses listed under major and additional requirements require a grade of C or better.

General Education courses designated as required by the department are prerequisite to many courses in the program of study.

For further information related to the Registered Dietitian Nutritionist Career Specialty, see the Food Science and Nutrition Department Didactic Program in Dietetics (DPD) Student Handbook:
<https://www.fresnostate.edu/jcast/fsn/degrees-programs/dietetics/index.html>

Forensic Behavioral Sciences, B.S.

Bachelor of Science Degree Requirements

A grade of C or higher is required for all courses to be counted toward the major (excluding CR/NC classes).

Forensic Behavioral Sciences Major (minimum 51 units)

See all advising notes below.

Lower-Division Core Requirements:

- CRIM 1 - Strategies for Success in the Criminology Department **Units: 1**
- CRIM 2 - Administration of Justice **Units: 3**
- CRIM 20 - Criminal Law **Units: 3**
- CRIM 50 - Statistical and Computer Applications in Criminal Justice **Units: 3 (Area B4)**

Upper-Division Core:

(minimum 6 units)

- CRIM 100 - Criminology **Units: 3**
- CRIM 170 - Research Methods in Criminal Justice **Units: 3**
- PSYCH 144 - Research Designs and Experimental Methods **Units: 5**

Upper-Division Requirements:

- CRIM 113 - Forensic Science **Units: 3**
- FBS 114 - Ethics in Forensic Behavioral Sciences **Units: 3**
- FBS 153 - Psychology of Criminality **Units: 3**
- FBS 154 - Fundamentals of Forensic Behavioral Sciences **Units: 3**
- FBS 155 - Biology of Criminality **Units: 3**
- FBS 156 - Forensic Behavioral Sciences and the Law **Units: 3**
- PSYCH 128 - Cognitive Psychology **Units: 4**

OR

- PSYCH 127 - Forensic Cognitive Science **Units: 4**

General Electives Cluster:

Select two courses from

- CRIM 108 - Directed Policing **Units: 3**
- CRIM 110 - Police in America **Units: 3**
- CRIM 120 - Juvenile Delinquency **Units: 3**
- CRIM 127 - Evidence **Units: 3**
- CRIM 133 - Institutional Corrections **Units: 3**
- CRIM 134 - Criminal Justice Counseling **Units: 3**
- CRIM 135 - Community-Based Corrections **Units: 3**
- CRIM 136T - Topics in Criminology **Units: 1-3**
- CRIM 140 - Family Violence **Units: 3**
- CRIM 141 - Alcohol, Drugs, and Criminality **Units: 3**
- CRIM 160H - Honors Seminar in Criminology **Units: 3**
- CRIM 160T - Topics in Crimes **Units: 1-3**
- CRIM 173 - Trauma & Crisis Intervention **Units: 3**
- CRIM 174 - Ethnic and Gender Issues in Criminal Justice **Units: 3**
- CRIM 175 - Victimology **Units: 3**
- CRIM 176 - Victim Services **Units: 3**
- CRIM 180I - Internship **Units: 3**
- AFRS 146 - Law and the Minority Community **Units: 3**
- ANTH 101 - Introductory Fieldwork in Archaeology **Units: 3-6**
- ANTH 169T (Forensic Anthropology)
- PAX 110 - Peace Building **Units: 3 (Area E1)**
- PHIL 151 - Cognitive Science: Mind **Units: 3 (Area IC)**

Forensic Behavioral Sciences Electives Cluster:

Select one course from

- FBS 157 - Interviewing and Interrogation **Units: 3**
- FBS 159T - Topics in Forensic Behavioral Sciences **Units: 3**

Psychology Electives Cluster:

Select one course from

- PSYCH 127 - Forensic Cognitive Science **Units: 4**
- PSYCH 128 - Cognitive Psychology **Units: 4**
- PSYCH 149 - Psychological Testing **Units: 4**
- PSYCH 154 - Personality **Units: 4**
- PSYCH 156 - Social Psychology **Units: 4**
- PSYCH 160T - Topics in Clinical Processes **Units: 2-5**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. These courses include CRIM 50 (Area B4), PAX 100 (Area E), and PHIL 151 (Area IC). See advisor for details.

Advising Notes

From Fall 2019, students wishing to change their major to Criminology or Forensic Behavioral Sciences will need to have a cumulative GPA of at least 2.5.

These courses are also required for the other three Options in the Criminology major.

CRIM 1 is a prerequisite for CRIM 180I. Special note: Due to its importance for all Criminology majors, CRIM 1 should be taken as early as possible.

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.

Students must choose either PSYCH 127 or PSYCH 128 as one of their upper-division requirements. When they choose one of these courses as an upper-division requirement, they may choose the other as their Psychology Electives Cluster course.

Students must take FBS 114 or CRIM 102 as a prerequisite or corequisite for CRIM 180I.

FBS students may receive only 3 units of credit for any combination of CRIM 108 or CRIM 180I toward major requirements.

FBS students may receive only 3 units of credit for CRIM 136T (Mock Trial) toward major requirements.

PSYCH 160T, depending upon the topic, has a variable number of units (2 to 5 units). To qualify as an acceptable Psychology Electives Cluster course for FBS, the course must be worth a minimum of 4 units.

French, B.A.

Bachelor of Arts Degree Requirements

Major Requirements (30-44 units)

(see Advising Notes 1, 2, and 3 below)

Lower Division (14 units)

(see Advising Notes 3 and 4)

- FREN 1A - Elementary French **Units: 3**
- FREN 1B - Elementary French **Units: 3**

Select Two from

- FREN 2A - French for Communication **Units: 3**
- FREN 2B - French for Communication **Units: 3**
- FREN 4 - Reading and Writing **Units: 3**
- FREN 5 - Conversation **Units: 3**

Upper Division (30 units)

- FREN 103 - Advanced Grammar and Composition **Units: 3** (for 6 units)
- FREN 109 - French Literature, Culture, and Society from the Middle Ages to Today **Units: 3**

Select Three from (9 units)

- FREN 110 - French Theater **Units: 3**
- FREN 111 - The French Novel **Units: 3**
- FREN 112 - French Prose: Essay and Short Story **Units: 3**
- FREN 113 - French Poetry **Units: 3**

Select Four from (12 units)

(see Advising Note 2)

- FREN 120T - Topics in French Civilization **Units: 3**
- FREN 132 - French Phonology and Structural Analysis **Units: 3**
- FREN 149 - Voices of Africa **Units: 3**
- FREN 150 - Advanced Conversation **Units: 3**
- FREN 160T - Selected Topics in French Studies **Units: 1-3**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. This includes FREN 1B, FREN 2A, and/or FREN 2B (Area C1 and third course in Area C1/C2). See advisor for details.

Advising Notes

CR/NC grading is not permitted for courses in the French major. Students must receive a minimum grade of C in each upper-division course used toward the French major.

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 advisor 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, FREN 2A, FREN 2B, FREN 4, FREN 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.

Only 3 units of courses taught in English may be applied to the French major.

Geography, B.A.

Bachelor of Arts Degree Requirements

The Bachelor of Arts degree with a major in geography requires the completion of 120 units, at least 36 of which shall be in geography.

Major Requirements (36 units)

Core Courses (18 units)

- GEOG 2 - Introduction to Cultural Geography **Units: 3**
- GEOG 4 - World Geography **Units: 3 (Area D2)**
- GEOG 5 - Introduction to Weather and Climate **Units: 3**
- GEOG 7 - Physical Geography: The Earth's Surface **Units: 3**
- GEOG 30 - Introduction to Spatial Statistics **Units: 3**
- GEOG 141 - GIS I: Data Display and Manipulation **Units: 3**

Approved Geography Electives (18 units)

Any geography or city and regional planning courses; however, at least 12 units must be upper-division.

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total: 120 Units*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. This includes GEOG 4 (Area D2). See advisor for details.

Advising Notes

No more than 3 units of GEOG 195 may be applied to the geography major.

General Education courses offered by the Department of Geography may be used to satisfy the General Education requirements for geography majors.

CR/NC grading is not permitted in the geography major with the exception of GEOG 192 and GEOG 195.

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.

Students must complete a minimum of 12 upper-division units in the major as part of the requirements to earn a B.A.

It is strongly recommended that students interested in professional careers in geography complete a minor in a related field.

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. Please consult with an adviser for guidance on electives.

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. The department will facilitate course selection and enable the student to develop a program consistent with individual interests and needs. Please consult with an adviser for guidance on electives.

Students may use GEOG 167 to satisfy the Multicultural/International requirement.

Geology, B.S.

Bachelor of Science Degree Requirements

Major Requirements (54 units)

Lower-Division Requirements:

- EES 1 - Natural Disasters and Earth Resources **Units: 4**
- EES 2 - Historical Geology **Units: 3**
- EES 12 - Mineralogy **Units: 3**
- EES 30 - Introductory Field Methods **Units: 2**

Upper-Division Requirements:

- EES 100 - Analytical Methods in the Earth Sciences **Units: 2**
- EES 101 - Igneous and Metamorphic Petrology **Units: 4**
- EES 102S - Sedimentology **Units: 4 (Area IB)**
- EES 103F - Field Geology **Units: 1**
- EES 104W - Scientific Writing and Research Techniques **Units: 3**
- EES 106 - Structural Geology **Units: 3**
- EES 106F - Structural Geology Field Methods **Units: 1**
- EES 107 - Advanced Field Methods **Units: 3**
- EES 115S - Climate Change Solutions **Units: 3 (Area ID)**
- EES 189 - Seminar in Earth and Environmental Sciences **Units: 1**
- EES 178 - Geostatistics **Units: 3**

Two of the Following:

- EES 105 - Geomorphology **Units: 3**
- EES 110 - Invertebrate Paleontology **Units: 3**
- EES 122 - Stratigraphy **Units: 3**

One of the Following:

- EES 114 - Engineering Geology **Units: 3**
- EES 117 - Hydrogeology **Units: 3**
- EES 118 - Applied Geophysics **Units: 3**
- EES 124 - Geochemistry **Units: 3**

One of the following

- EES 199 - Undergraduate Thesis **Units: 3**
- EES 199I - Undergraduate Internship **Units: 3**
- EES 199S - Undergraduate Thesis through Service Learning **Units: 3**

Upper-Division Geology Elective (see Note 2) (2 units)

Additional Requirements (22 units)

- CHEM 1A - General Chemistry 1A **Units: 3 (Area B1)**
- CHEM 1AL - General Chemistry Laboratory 1A **Units: 2 (Area B1)**
- CHEM 1B - General Chemistry 1B **Units: 3**
- CHEM 1BL - General Chemistry Laboratory 1B **Units: 2**
- MATH 75 - Calculus I **Units: 4 (Area B4)**
- PHYS 2A - General Physics **Units: 4**
- PHYS 2B - General Physics **Units: 4**
OR
- PHYS 4A - Mechanics and Wave Motion **Units: 3**
- PHYS 4AL - Laboratory in Mechanics and Wave Motion **Units: 1**
- PHYS 4B - Electricity, Magnetism, and Heat **Units: 3**
AND
- PHYS 4BL - Laboratory in Electricity, Magnetism, and Heat **Units: 1**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)

- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. These courses include CHEM 1A and CHEM 1AL (Area B1), MATH 75 (Area B4), EES 102S (Area IB), EES 115S (Area ID), and EES 104W. See advisor for details.

Advising Notes

"Additional requirements" courses may be applied to satisfy requirements of a minor, as appropriate. They also may be taken CR/NC (see Credit/No Credit Grading).

No more than 1 unit of EES 160 may be used to fulfill the upper-division elective requirement. EES 154, EES 155, and EES 168 are not applicable toward geology major requirements.

CR/NC is not permitted in the geology major with the exception of EES 3.

No more than 1 unit of EES 3 will be permitted.

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 advisor for further information.

Students planning to pursue graduate study in geology are strongly encouraged to take MATH 76 or EES 177 or EES 180.

In compliance with Federal Requirements for Posting Licensure and Certification Eligibility, please see the CSU Chancellor's Office calstate.edu website

Geomatics Engineering, B.S.

Bachelor of Science Degree Requirements

Major Requirements (68 units)

Major Core (59 units)

- CE 161 - Construction Engineering I Units: 3 (Area ID)
- GME 1 - Introduction to Geomatics Engineering Units: 1
- GME 15 - Engineering Surveying Units: 3
- GME 15L - Engineering Surveying Laboratory Units: 1

- GME 16 - Municipal Surveying Units: 3
- GME 16L - Municipal Surveying Laboratory Units: 1
- GME 34 - Adjustment Computations Units: 3
- GME 40 - Route and Construction Surveying Units: 4
- GME 50 - Land Surveying Units: 3
- GME 61 - Microcomputers in Engineering Units: 3
- GME 66L - Computer-Aided Mapping Units: 1
- GME 102 - Geodetic Surveying Units: 3
- GME 108 - Geodesy Units: 3
- GME 123 - Stereo-Photogrammetry Units: 3
- GME 125 - Analytical Photogrammetry Units: 3
- GME 126 - Digital Mapping Units: 3
- GME 135 - Advanced Adjustment Computations Units: 3
- GME 143 - Satellite Geodesy Units: 3
- GME 159 - Subdivision Design Units: 3
- GME 173 - Introduction to GIS Units: 3
- GME 180 - Senior Design Project Units: 3
- GME 181 - Project Design Units: 3

Major Electives (9 units)

Design Courses

At least 6 units must be selected from the following courses:

- GME 145 - Geopositioning Units: 3
- GME 153 - Boundary Survey Design Units: 3
- GME 161 - Data Interface Design Units: 3
- GME 174 - GIS Applications Units: 3
- GME 175 - GIS Design Units: 3

Technical Courses

The remaining 3 units can be selected from the following courses:

- GME 114 - GPS Navigation Units: 3
- GME 145 - Geopositioning Units: 3
- GME 152 - Real Property Descriptions Units: 3
- GME 153 - Boundary Survey Design Units: 3
- GME 161 - Data Interface Design Units: 3
- GME 174 - GIS Applications Units: 3
- GME 175 - GIS Design Units: 3
- GME 190 - Independent Study Units: 1-3
- CSCI 115 - Algorithms and Data Structures Units: 4
- CSCI 124 - Introduction to File Processing Units: 3
- CSCI 150 - Introduction to Software Engineering Units: 3
- CSCI 172 - Computer Graphics Units: 3
- CM 180B - Construction Management Capstone 2 Units: 3
- CM 122 - Construction Laws Units: 3

- CM 124 - Construction Labor Relations **Units: 3**
- BA 154 - Real Estate Law **Units: 3**
- FIN 180 - Real Estate Principles **Units: 3**
- FIN 181 - Real Estate Appraisal **Units: 3**
- MATH 101 - Statistical Methods **Units: 4**
- MATH 121 - Numerical Analysis I **Units: 3**
- PHYS 110 - Physical Optics **Units: 3**

Additional Requirements (35 units)

- MATH 75 - Calculus I **Units: 4** (Area B4)
- MATH 76 - Calculus II **Units: 4**
- MATH 77 - Calculus III **Units: 4**
- MATH 101 - Statistical Methods **Units: 4**
- PHIL 1 - Introduction to Philosophy **Units: 3** (Area C2)
OR
- PHIL 10 - Self, Religion, and Society **Units: 3** (Area C2)
- PHIL 120 - Contemporary Conflicts of Morals **Units: 3**
(Area IC)
- PHYS 4A - Mechanics and Wave Motion **Units: 3** (Area B1)
- PHYS 4AL - Laboratory in Mechanics and Wave Motion **Units: 1**
- PHYS 4B - Electricity, Magnetism, and Heat **Units: 3**
- PHYS 4C - Light and Modern Physics **Units: 3**
- GME 151 - Boundary Control and Legal Principles **Units: 3**
(Area IB)

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- *Geomatics Engineering majors are exempt from G.E. Areas A3, C1, the third C1/C2, and E*
- Multicultural and International (MI) - *Geomatics Engineering majors are exempt from the MI requirement*
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total: 124 Units*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. These courses include MATH 75 (Area B4), PHYS 4A (Area B1), PHIL 1 or PHIL 10 (Area C2), GME 151 (Area IB), PHIL 120 (Area IC), and CE 161 (Area ID). See advisor for details.

Advising Notes

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.

All geomatics engineering students must consult with their academic advisors at least once each year.

All upper-division engineering courses should be completed with an average grade of at least a C.

Graphic Design, B.F.A.

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.

Major Requirements (72 units)

Art and Design Core (18 units)

- ARTH 10 - The Ancient Medieval Worlds **Units: 3** (Area C1)
- ARTH 11 - The Early Modern World **Units: 3** (Area C1)
- ART 13 - Design **Units: 3** (Area E)
- ART 16 - Introduction to Color Theory **Units: 3**
- ART 20 - Drawing **Units: 3**
- ART 24 - Beginning Printmaking **Units: 3**
OR
- ART 30 - Introduction to Photography **Units: 3**
OR
- ART 40 - Painting **Units: 3** (Area C1)
OR
- ART 50 - Beginning Sculpture **Units: 3** (Area C1)

OR

- ART 60 - Beginning Ceramics **Units: 3**

OR

- ART 70 - Crafts **Units: 3**

GD Lower-Division Requirements (21 units)

- GD 35 - Visual Communications Fundamentals **Units: 3**
- GD 37 - Graphic Design: Computer Imaging **Units: 3**
- GD 39 - Graphic Design: Computer Layout Design **Units: 3**
- GD 41 - Typography **Units: 3**
- GD 42 - Graphic Design **Units: 3**
- GD 50 - Web Design **Units: 3**
- GD 60 - Illustration Techniques **Units: 3**

GD Upper-Division Requirements (12 units)

- GD 135 - History of Graphic Design **Units: 3**
 - GD 179 - Professional Practices In Graphic Design **Units: 3**
 - GD 180 - Graphic Portfolio Development **Units: 3**
 - ARTH 132 - Twentieth Century Modern Art **Units: 3**
- OR
- ARTH 136 - Contemporary Art **Units: 3**

Area of Emphasis (I, II or III) (21 units)

I. Graphic Design

- GD 142 - User Experience and Interface Design **Units: 3**
- GD 170 - Typographic Design **Units: 3**
- GD 171 - Advanced Typographic Design **Units: 3**
- GD 174 - Graphic Systems **Units: 3**
- GD 175 - Graphic Concept Development **Units: 3**
- GD 176 - Packaging Design **Units: 3**
- GD 178 - Professional Advertising Design **Units: 3**

II. Illustration

Illustration candidates - see advisor.

- GD 142 - User Experience and Interface Design **Units: 3**
- GD 163 - Illustration **Units: 3**
- GD 165 - Digital Illustration Techniques **Units: 3**
- GD 167 - Advanced Illustration **Units: 3**
- GD 169 - Advanced Digital Illustration **Units: 3**
- 6 units of approved electives

III. Interactive Multimedia Design

Interactive Multimedia Design candidates - see advisor.

- GD 150 - Advanced Web Design **Units: 3**
- GD 153 - Data and Design **Units: 3**
- GD 155 - Designing for Interactions **Units: 3**
- GD 157 - Motion Graphics **Units: 3**
- GD 158 - Design Practicum **Units: 3**
- GD 159 - Immersive Design **Units: 3**
- 3 units of approved electives

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI) - *Graphic Design majors are exempt from the MI requirement.*
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. These courses include ARTH 10, ARTH 11, ART 20, ART 40, ART 50 (Area C1), and ART 13 (Area E). See advisor for details

Advising Notes

A portfolio is required to continue in the B.F.A. in Graphic Design.

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.

The student must PASS the portfolio review to continue in the B.F.A. in Graphic Design.

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.

Student work may be retained for a limited period for display and accreditation visits.

Health Science - Community Health Option, B.S.

Bachelor of Science Requirements

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 (48 units), a health science core specific to an option (15 units), one of three options (21-27 units), the upper-division writing skills requirement, Multicultural and International (M/I), 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 an advising roadmap from the department office. The roadmap includes the list of required courses. It is strongly recommended that students follow the coursework shown in the roadmap. 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.

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.

Major Requirements (42 units)

Health Science Core for Community Health Option (15 units)

- PH 92 - Public Health Statistics **Units: 3**
- PH 100 - Community Health **Units: 3**

- PH 109 - Epidemiology of Disease **Units: 3**
- PH 161 - Environment and Human Health **Units: 3**
- PH 163 - Public Health Administration **Units: 3**

Requirements (27 units)

Option Requirements: (21 units)

- PH 90 - Contemporary Health Issues **Units: 3 (Area E)**
- PH 91 - Human Sexuality **Units: 3**
- PH 110 - Drugs, Society, and Health **Units: 3**
- PH 114 - Health Behavior **Units: 3**
- PH 131 - Principles of Health Education **Units: 3**
- PH 133 - Health Education Methods **Units: 3**
- PH 135 - Introduction to Human Disease **Units: 3**

Option Elective Requirements (select from): (6 units)

- PH 48 - First Responder and Emergency Care **Units: 3**
- PH 104 - Global and Cultural Issues in Health **Units: 3**
- PH 105 - Risk Assessment and Analysis **Units: 3**
- PH 111 - Alcohol and Alcoholism **Units: 3**
- PH 112 - Consumer Health **Units: 3**
- PH 115 - Health Issues of Aging **Units: 3**
- PH 127 - Female Sexuality **Units: 3**
- PH 129 - Rural Health **Units: 3**
- PH 130 - Women's Health **Units: 3**
- PH 152T - Topics in Health **Units: 1-3**
- PH 182 - Computers for the Health Professions **Units: 3**
- NUTR 53 - Nutrition and Health: Realities and Controversies **Units: 3**

Additional Requirements (15 units)

- BIOL 10 - Life Science **Units: 3 (Area B2)**
OR
- BIOL 110 - Human Ecology **Units: 3**
- CHEM 3A - Introductory General Chemistry **Units: 4 (Area B1)**
- CHEM 3B - Introductory Organic and Biochemistry **Units: 3**
- BIOL 33 - Introductory Human Anatomy and Physiology **Units: 5**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. These courses include BIOL 10 (Area B2), CHEM 3A (Area B1), and PH 90 (Area E). See advisor for details.

Advising Notes

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, PH 100, PH 109, PH 161, PH 163) and core option courses (PH 90, PH 91, PH 110, PH 114, PH 131, PH 133, PH 135).

Health science majors may not apply CR/NC grading toward major requirements for a baccalaureate degree, except for PH 175I, PH 185I, and PH 188I, which are mandatory CR/NC courses.

Health Science - Environmental/Occupational Health & Safety Option, B.S.

Bachelor of Science Requirements

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 (48 units), a health science core specific to an option (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, Multicultural

and International (M/I), 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 an advising roadmap from the department office. The roadmap includes the list of required courses. It is strongly recommended that students follow the coursework shown in the roadmap. Students need to consult with their advisors 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.

Major Requirements (36 units)

Core (15 units)

- PH 92 - Public Health Statistics **Units: 3**
- PH 135 - Introduction to Human Disease **Units: 3**
- PH 109 - Epidemiology of Disease **Units: 3**
- PH 161 - Environment and Human Health **Units: 3**
- PH 163 - Public Health Administration **Units: 3**

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. The program also provides preparation for graduate studies and acceptance into professional schools (medicine, dentistry, pharmacy, optometry, veterinary medicine, etc).

The option is approved by the California Department of Health Services. Students in the major are eligible for the following:

paid internships with federal agencies such as the U.S. Public Health Service,
national and state scholarships, and
entrance to the Registered Environmental Health Specialist (REHS) exam immediately following graduation (without having to serve an 18-month traineeship).

Requirements (21 units)

- PH 143 - Occupational Safety **Units: 3**
- PH 160 - Principles of Toxicology **Units: 3**
- PH 162 - Environmental Health Concepts **Units: 3**

- PH 168A - Occupational Health Concepts **Units: 3**

Option Elective Requirements (select minimum of three courses):

- PH 105 - Risk Assessment and Analysis **Units: 3**
- PH 145 - Occupational and Environmental Systems Management **Units: 3**
- PH 151 - Health Law and Legislation **Units: 3**
- PH 164 - Vector Control **Units: 3**
- PH 166T - Topics in Environmental Health **Units: 1-3**
- PH 167 - Public Health Laboratory Techniques **Units: 3**
- PH 168B - Occupational Health Evaluation **Units: 3**
- PH 170 - Air Pollution and Health **Units: 3**

Additional Requirements (38-42 units)

Basic Sciences:

- BIOL 1A - Introductory Biology **Units: 4 (Area B2)**
AND
- BIOL 1B - Introductory Biology **Units: 3**
- BIOL 1BL - Introductory Biology Laboratory **Units: 1**
- OR**
- BIOL 33 - Introductory Human Anatomy and Physiology **Units: 5**
- CHEM 1A - General Chemistry 1A **Units: 3 (Area B1)**
- CHEM 1AL - General Chemistry Laboratory 1A **Units: 2 (Area B1)**
- CHEM 1B - General Chemistry 1B **Units: 3**
- CHEM 1BL - General Chemistry Laboratory 1B **Units: 2**
AND
- CHEM 8 - Elementary Organic Chemistry **Units: 3**
OR
- CHEM 128A - Organic Chemistry **Units: 3**
- MATH 70 - Calculus for Life Sciences **Units: 4**
OR
(Area B4)
- MATH 75 - Calculus I **Units: 4 (Area B4)**
- BIOL 20 - Introductory Microbiology **Units: 4**
OR
- BIOL 140 - Plant Anatomy **Units: 3**
- PHYS 2A - General Physics **Units: 4 (Area B1)**
- PHYS 2B - General Physics **Units: 4**

Internship:

- PH 175I - Environmental Internship **Units: 1-4**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units (120)*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. These Courses include BIOL 1A (Area B2), CHEM 1A/CHEM 1AL or PHYS 2A (Area B1), and MATH 70 or MATH 75 (Area B4). See advisor for details.

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.

Advising Note

A minimum grade of C is required in all courses for the major. Health science majors may not apply CR/NC grading toward major requirements for a baccalaureate degree, except for PH 175I, PH 185I, and PH 188I, which are mandatory CR/NC courses.

Health Science - Health Administration Option, B.S.

Bachelor of Science Requirements

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 (48 units), a health science core specific to an option (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, Multicultural and International (M/I), 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 an advising roadmap from the department office. The roadmap includes the list of required courses. It is strongly recommended that students follow the coursework shown in the roadmap. 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.

Major Requirements (46-47)

Core (15 units)

- PH 92 - Public Health Statistics **Units: 3**
- PH 100 - Community Health **Units: 3**
- PH 109 - Epidemiology of Disease **Units: 3**
- PH 161 - Environment and Human Health **Units: 3**
- PH 163 - Public Health Administration **Units: 3**

Health Administration Option Requirements (16 units)

- PH 151 - Health Law and Legislation **Units: 3**
- PH 156 - Health & Well-being in the San Joaquin Valley **Units: 3**
- PH 154 - Health Care Administration **Units: 3**
- PLSI 181 - Public Administration **Units: 3**
- OR**
- MGT 104 - Administrative Principles of Management **Units: 3**
- ECON 162 - Health Economics **Units: 3**
- OR**
- PH 155 - Utilization of Health Care Resources **Units: 3**
- MKTG 100S - Marketing Concepts **Units: 4**

Option Electives (15-16 units)

Select from:

- PH 104 - Global and Cultural Issues in Health **Units: 3**

- PH 114 - Health Behavior **Units: 3**
- PH 115 - Health Issues of Aging **Units: 3**
- PH 129 - Rural Health **Units: 3**
- PH 143 - Occupational Safety **Units: 3**
- PH 168A - Occupational Health Concepts **Units: 3**
- PH 185I - Fieldwork in Health **Units: 1-3**
- HRM 150 - Administration of Personnel **Units: 3**
- MKTG 132 - Promotion Mix: Principles and Practices **Units: 4**
- SOC 147 - Medical Sociology **Units: 3**

Additional Requirements (12 units)

- ACCT 3 - Essentials of Accounting **Units: 3**
- ECON 40 - Principles of Microeconomics **Units: 3**
- PH 153 - Principles of Healthcare Finance **Units: 3**
- PH 182 - Computers for the Health Professions **Units: 3**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units (120)*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. See advisor for details.

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.

Advising Notes

A minimum grade of C is required in all Health Science courses. Health science majors may not apply CR/NC grading toward major requirements for a baccalaureate degree, except for PH 175I, PH 185I, and PH 188I, which are mandatory CR/NC courses.

History, B.A.

Bachelor of Arts Degree

Requirements

A grade of C or higher is required for all courses to be counted toward the major.

Major Requirements (45 units)

Lower-Division Requirements: (6 units)

- HIST 20 - World History I **Units: 3** (Area D2)
- HIST 21 - World History II **Units: 3** (Area D2)

Select Two: (6 units)

- HIST 3 - Colonial Americas **Units: 3**
- HIST 5 - European Civilization **Units: 3**
- HIST 6 - East Asian Civilization **Units: 3**
- HIST 7 - African Civilization **Units: 3**
- HIST 8 - Republics of Latin America **Units: 3**
- HIST 9 - Russian and Eurasian Civilization **Units: 3**
- HIST 13 - Empires of the Middle East **Units: 3**

Upper-Division Requirements:

- HIST 100W - Introduction to Historical Research and Writing **Units: 3**
- HIST 198 - Crafting History **Units: 3**
- Select nine courses from the fields listed on this page **Units: 27**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. These courses include HIST 20 or HIST 21 (Area D2) and HIST 100W. See advisor for details.

Advising Notes

HIST 100W is required before enrollment in HIST 198 for all students with catalog year 2020-2021 to present.

It is strongly recommended that history majors take both HIST 11 and HIST 12.

History majors are not permitted to take history courses by CR/NC grading.

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 advisor for further information.

Students who are planning to do graduate work in history are advised to take a foreign language and HIST 196 as an undergraduate in consultation with the History Department.

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.

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 193I can be applied to any one field.

Fields

United States History:

- HIST 101 - Women in History **Units: 3**
- HIST 102T - Topics in Women's History **Units: 3**
- HIST 146 - Gendered Perspectives on U.S. Immigration **Units: 3**
- HIST 153 - United States During the Cold War **Units: 3**
- HIST 156 - U.S. Cultural History, 1877-Present **Units: 3**
- HIST 158 - The American Civil War **Units: 3**
- HIST 159 - The Reconstruction of America, 1865-1900 **Units: 3**
- HIST 170 - The American Colonies, 1607-1763 **Units: 3**
- HIST 171 - The American Revolution, 1763-1815 **Units: 3**
- HIST 172 - Jacksonian America, 1815-1848 **Units: 3**

- HIST 173 - Jews in American Film **Units: 3**
- HIST 174 - United States History, 1914-1945 **Units: 3**
- HIST 175 - United States History, 1945-Present **Units: 3**
- HIST 177 - American History in Film **Units: 3**
- HIST 178 - History of African Americans **Units: 3**
- HIST 179T - Studies in United States History **Units: 1-3**
- HIST 180 - History and Autobiography **Units: 3**
- HIST 182 - Westward Movement Since 1848 **Units: 3**
- HIST 183 - The Hispanic Southwest **Units: 3**
- HIST 186 - American Immigration and Ethnic History **Units: 3**
- HIST 187 - California History **Units: 3**
- HIST 188 - Regional and Local History **Units: 3**
- HIST 190 - Independent Study **Units: 1-3**
- HIST 193I - Internship in History **Units: 1-3**
- HIST 194 - The United States and Vietnam **Units: 3**

European History:

- HIST 103 - History of Early Christianity **Units: 3**
- HIST 104 - History of Women and Men in Modern Europe **Units: 3**
- HIST 111 - Ancient Greece and Egypt **Units: 3**
- HIST 112 - Ancient Rome **Units: 3**
- HIST 116 - Greek and Roman Religion **Units: 3**
- HIST 117 - Alexander the Great & Hellenistic World **Units: 3**
- HIST 118 - Augustus & Rome **Units: 3**
- HIST 119T - Studies in Ancient History **Units: 1-3**
- HIST 121 - The Middle Ages **Units: 3**
- HIST 122 - Medieval Culture **Units: 3**
- HIST 124T - Studies in Medieval History **Units: 1-3**
- HIST 125 - Renaissance **Units: 3**
- HIST 126 - Reformation **Units: 3**
- HIST 127 - Women & Power in Early Mod Europe **Units: 3**
- HIST 129T - Studies in Intellectual and Social History **Units: 1-3**
- HIST 130 - Europe in the 17th Century **Units: 3**
- HIST 131 - Europe in the 18th Century **Units: 3**
- HIST 132 - Revolutionary Europe **Units: 3**
- HIST 133 - Europe in the 20th Century **Units: 3**
- HIST 134
- HIST 135 - European Cultural History **Units: 3**
- HIST 139 - European Diplomatic History 1890-1945 **Units: 3**
- HIST 140 - Holocaust **Units: 3**
- HIST 141 - Modern Germany **Units: 3**
- HIST 142 - Tsarist Russia **Units: 3**
- HIST 143 - Russia and Eurasia in the 20th Century **Units: 3**
- HIST 144 - Warfare in the Western World **Units: 3**
- HIST 145 - Spain and Portugal **Units: 3**

- HIST 149T - Studies in Modern European History **Units: 1-3**
- HIST 150 - England to 1485 **Units: 3**
- HIST 151 - British Empire **Units: 3**
- HIST 152 - British History in Film **Units: 3-4**
- HIST 181 - Anti-Semitism from the Medieval to Modern World **Units: 3**
- HIST 190 - Independent Study **Units: 1-3**
- HIST 193I - Internship in History **Units: 1-3**

World Regions:

- HIST 102T - Topics in Women's History **Units: 3**
- HIST 105 - Armenian Genocide in Comparative Context **Units: 3**
- HIST 106 - Armenians in North America **Units: 3**
- HIST 107 - Modern Middle East **Units: 3**
- HIST 108A - Armenian History I: Ancient and Medieval **Units: 3**
- HIST 108B - Armenian History II: Modern and Contemporary **Units: 3**
- HIST 109T - Studies in Middle East and Africa **Units: 1-3**
- HIST 110 - Ancient Near East **Units: 3**
- HIST 114 - Gender, Sexuality and the Family in the Middle East **Units: 3**
- HIST 115 - Ancient Israel **Units: 3**
- HIST 157 - Modern Africa **Units: 3**
- HIST 160 - The Great American Civilizations: Maya, Aztec, Inca **Units: 3**
- HIST 161 - Multicultural Brazil **Units: 3**
- HIST 162 - South America **Units: 3**
- HIST 164 - 19th Century Mexico **Units: 3**
- HIST 165 - Modern Mexico **Units: 3**
- HIST 166 - United States -- Latin American Diplomacy **Units: 3**
- HIST 167 - Social Revolution in Latin America **Units: 3**
- HIST 168 - Latin American History in Film **Units: 3**
- HIST 169T - Studies in Latin American History **Units: 1-3**
- HIST 176 - The Atlantic World, 1500 - 1800 **Units: 3**
- HIST 190 - Independent Study **Units: 1-3**
- HIST 191 - When Asia was the World and the World Changed Asia **Units: 3**
- HIST 192 - Modern Far East, 1949-Present **Units: 3**
- HIST 193I - Internship in History **Units: 1-3**
- HIST 199T - Studies in Far Eastern History **Units: 1-3**

Human Nutritional Sciences, B.S.

Bachelor of Science Degree Requirements

Major Requirements (50 units)

Core Courses (28 units)

- CULG 50 - Culinary Science I **Units: 3**
- FSC 1 - Introduction to Food Science and Technology **Units: 3**
- NUTR 53 - Nutrition and Health: Realities and Controversies **Units: 3 (Area E)**
- NUTR 61 - Introduction to Food & Nutrition Careers **Units: 1**
- NUTR 153 - Advanced Nutrition **Units: 3**
- NUTR 154 - Advanced Nutrition - Micronutrients and Fluids Metabolism **Units: 3**
- NUTR 160 - Nutrition across the Life Cycle 1 **Units: 3**
- NUTR 165 - Nutrition Across the Life Cycle 2 **Units: 3**
- NUTR 166SE - Community Nutrition **Units: 3**
- NUTR 170 - Food and Culture **Units: 3**

Career Specialty Emphasis (22 units)

In consultation with assigned faculty advisor, each student is required to select one area of electives to match his or her career goals. Career specialties include the following:

Dietetics:

- COUN 174 - Introduction to Counseling **Units: 3**
- FSM 131 - Introduction to Food Systems Management **Units: 3**
- FSM 133 - Quantity Food Production **Units: 3**
- NUTR 149E - Food and Nutrition Communication **Units: 3**
- NUTR 156 - Nutrition Assessment **Units: 3**
- NUTR 157 - Medical Nutritional Therapy **Units: 3**
- NUTR 175 - Senior Dietetics Seminar **Units: 1**
- Additional courses approved by advisor.

Select 3 Units of Electives From:

- CULG 152 - Techniques for Healthy Cooking **Units: 3**
- FSM 60 - Food Safety for Foodservice Professionals **Units: 1**
- FSM 134 - Cost Analysis in Food Systems Management **Units: 3**
- FSM 193I - Supervised Work Experience **Units: 1-6**
- NUTR 147 - Nutrition and the Athlete **Units: 3**
- NUTR 162T - Topics in Nutrition **Units: 1-4**
- or courses approved by the Dietetics and Food Administration program coordinator.

Nutritional Science:

- FSC 115 - Food Analysis **Units: 3**
- NUTR 162T - Topics in Nutrition **Units: 1-4**
- NUTR 180 - Undergraduate Research **Units: 1-4**
- PH 109 - Epidemiology of Disease **Units: 3**
- PH 135 - Introduction to Human Disease **Units: 3**
- PHYS 10 - Conceptual Physics **Units: 4**
- Additional courses approved by advisor.

Select 3 Units of Electives From:

- CULG 55 - Culinary Science II **Units: 3**
- CULG 152 - Techniques for Healthy Cooking **Units: 3**
- FSM 60 - Food Safety for Foodservice Professionals **Units: 1**
- FSM 131 - Introduction to Food Systems Management **Units: 3**
- FSM 193I - Supervised Work Experience **Units: 1-6**
- NUTR 147 - Nutrition and the Athlete **Units: 3**
- or courses approved by the Nutritional Science program coordinator.

Additional Requirements (28 units)

- CHEM 3A - Introductory General Chemistry **Units: 4 (Area B1)**
- CHEM 8 - Elementary Organic Chemistry **Units: 3**
- CHEM 150 - General Biochemistry **Units: 3**
- BIOL 20 - Introductory Microbiology **Units: 4**
- BIOL 67A - Human Anatomy & Physiology I **Units: 4**
- BIOL 67B - Human Anatomy and Physiology II **Units: 4**
- MATH 11 - Elementary Statistics **Units: 3 (Area B4)**
- PSYCH 10 - Introduction to Psychology **Units: 3 (Area D2)**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI) - *Human Nutritional Sciences majors are exempt from the MI requirement.*
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. The courses include CHEM 3A (Area B1), MATH 11 (Area B4), NUTR 53 (Area E1), and PSYCH 10 (Area D2). See advisor for details.

Industrial Technology - Agricultural Systems Management Option, B.S.

Bachelor of Science Degree Requirements

Major Requirements (65 units)

Agricultural Business (9 units)

- AGBS 31 - Farm Accounting **Units: 3**
- AGBS 71 - Agricultural Business Statistics **Units: 3**
- AGBS 120 - Agribusiness Management **Units: 3**

Agricultural Mechanics (10 units)

- MEAG 3 - Agricultural Tractors **Units: 3**
- MEAG 5 - Power Equipment Safety **Units: 1**
- MEAG 20 - Agricultural Machinery and Equipment **Units: 3**
- MEAG 103 - Electro-Hydraulics **Units: 3**

Animal Sciences and Ag Education (3 units)

- ASCI 175 - Agricultural Food Safety Systems **Units: 3**

Industrial Technology (25 units)

- IT 52 - Electricity and Electronics **Units: 3**
 - IT 74 - Manufacturing Processes **Units: 3**
 - IT 110 - Fluid Power **Units: 3**
 - IT 116 - Applied Visual Programming **Units: 3**
 - IT 117 - Quality Assurance **Units: 3**
 - IT 118 - Production Operations **Units: 3**
 - IT 186 - Applied Spatial Technology **Units: 3**
 - IT 196 - Senior Seminar **Units: 1**
 - IT 199 - Senior Problem in Industrial Technology **Units: 3**
- OR**
- IT 194I - Cooperative Education in Industrial Technology **Units: 1-4**

Plant Science (3 units)

- PLANT 71 - Agricultural Water **Units: 3**

Electives (15 units)

Consult with advisor for selection of courses within JCAST departments

Additional Requirements (3 units)

- IT 198W - Technical Writing **Units: 3**
- AGBS 1 - Introductory Agricultural Economics **Units: 3** (Area D2)

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI) - *Industrial Technology majors are exempt from the MI requirement*
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. These courses include AGBS 1 (Area D2) and IT 198W. See advisor for details.

Industrial Technology, B.S.

Bachelor of Science Degree Requirement

Major Requirements (68 units)

Technical Core (29 units)

- IT 30 - Exploring Industrial Technology Systems **Units: 1**
- IT 52 - Electricity and Electronics **Units: 3**
- IT 74 - Manufacturing Processes **Units: 3**
- IT 104 - Product Design **Units: 3**
- IT 106 - Energy Conversion and Utilization **Units: 3**
- IT 114 - Industrial Materials **Units: 3**
- IT 115 - Design and Documentation Systems **Units: 3**
- IT 133 - Industrial Process Control Systems II **Units: 3**
OR
- IT 156 - Automated Systems II **Units: 3**
- DS 73 - Statistical Analysis I **Units: 3**
OR
- MATH 11 - Elementary Statistics **Units: 3**
- CHEM 3A - Introductory General Chemistry **Units: 4**

Management Core (22 units)

- IT 92 - Safety Management **Units: 3**
- IT 117 - Quality Assurance **Units: 3**
- IT 118 - Production Operations **Units: 3**
- IT 137 - International Quality Standards **Units: 3**
OR
- IT 184 - Advanced Manufacturing Technology **Units: 3**
- IT 148 - Project Management and Control **Units: 3**
- IT 196 - Senior Seminar **Units: 1**
- IT 198W - Technical Writing **Units: 3**
- IT 199 - Senior Problem in Industrial Technology **Units: 3**

Electives (17 units)

Consult with a department advisor to develop 17 units of electives. Electives should be chosen from the following list with advisor's approval:

- IT 12 - Basic Vehicle Systems **Units: 3**
- IT 41 - Industrial Design Graphics **Units: 3**
- IT 58 - Applied Computer Networking I **Units: 4**
- IT 63 - Applied Computer Networking II **Units: 4**
- IT 71 - Metallurgical Processes **Units: 3**
- IT 80 - Wood Technology **Units: 3**
- IT 110 - Fluid Power **Units: 3**
- IT 112 - Industrial Process Control Systems I **Units: 3**
- IT 116 - Applied Visual Programming **Units: 3**
- IT 120 - Vehicle Engine Systems **Units: 3**
- IT 127 - Vehicle Design and Development **Units: 3-6**
- IT 129 - Vehicle Diagnostic Procedures **Units: 3**
- IT 131 - Automated Systems I **Units: 3**
- IT 133 - Industrial Process Control Systems II **Units: 3**
- IT 134 - Computer-Aided Manufacturing Systems I **Units: 3**

- IT 146 - Multimedia Development **Units: 3**
- IT 147 - Advanced CAD Applications **Units: 3**
- IT 156 - Automated Systems II **Units: 3**
- IT 164 - Router and Internetworking I **Units: 4**
- IT 165 - Router and Internetworking II **Units: 4**
- IT 190 - Independent Study **Units: 1-3**
- IT 191T - Technical Topics in Industrial Technology **Units: 1-3**
- IT 194I - Cooperative Education in Industrial Technology **Units: 1-4**

Additional Requirements (10-11 units)

- PHYS 2A - General Physics **Units: 4 (Area B1)**
- IT 20 - Technology and Society **Units: 3 (Area D2)**
- MATH 75 - Calculus I **Units: 4 (Area B4)**
OR
- DS 71 - Quantitative Analysis **Units: 3 (Area B4)**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI) - *Industrial Technology majors are exempt from the MI requirement*
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. These courses include PHYS 2A (Area B1), IT 20 (Area D2), MATH 75 or DS 71 (Area B4), and IT 198W. See advisor for details.

Advising Notes

All courses (except IT 194I) required for the major must receive a letter grade.

Students must 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.

Integrated Design, B.A.

Bachelor of Arts Requirements

Major Requirements (63 units)

Art and Design Core (18 units)

- ARTH 10 - The Ancient Medieval Worlds **Units: 3**
- ARTH 11 - The Early Modern World **Units: 3**
- ART 13 - Design **Units: 3**
- ART 16 - Introduction to Color Theory **Units: 3**
- ART 20 - Drawing **Units: 3**
OR
- ID 43 - Design Graphics I **Units: 3**

Select One:

- ART 14 - 3 Dimensional Design **Units: 3**
- ART 24 - Beginning Printmaking **Units: 3**
- ART 30 - Introduction to Photography **Units: 3**
- ART 40 - Painting **Units: 3**
- ART 50 - Beginning Sculpture **Units: 3**
- ART 60 - Beginning Ceramics **Units: 3**

Lower-Division Requirements (12-13 units)

- GD 35 - Visual Communications Fundamentals **Units: 3**
OR
- ID 70 - Design History, Theory & Criticism I **Units: 3**
- GD 37 - Graphic Design: Computer Imaging **Units: 3**
OR
- ID 77 - Design Graphics II **Units: 3**
- GD 41 - Typography **Units: 3**
- GD 42 - Graphic Design **Units: 3**
OR
- ID 71 - Design Studio II **Units: 4**

Lower-Division Elective Requirement (3 units)

- GD 39 - Graphic Design: Computer Layout Design **Units: 3**
- GD 50 - Web Design **Units: 3**
- GD 60 - Illustration Techniques **Units: 3**
- ID 7 - Design Studio I **Units: 4**

- ID 70 - Design History, Theory & Criticism I **Units: 3**

Upper-Division Electives (27 units)

Select from:

- ART 101 - Content and Form **Units: 3**
- ART 116 - Advanced Color Theory **Units: 3**
- ART 125 - Lithography **Units: 3**
- ART 126 - Intaglio **Units: 3**
- ART 127 - Screenprinting **Units: 3**
- ART 130 - Intermediate Black and White Photography **Units: 3**
- ART 133 - Alternative Approaches to Digital Imagery **Units: 3**
- ART 181 - 2-D Animation 1 **Units: 3**
- ART 182 - Large Format Photography **Units: 3**
- ART 185 - Color Photography **Units: 3**
- ART 186 - Intermediate 3D Digital Art - Animation **Units: 3 ***
- ART 188 - Digital Video Art **Units: 3**
- ARTH 132 - Twentieth Century Modern Art **Units: 3**
- ARTH 136 - Contemporary Art **Units: 3**
- GD 135 - History of Graphic Design **Units: 3**
- GD 142 - User Experience and Interface Design **Units: 3**
- GD 150 - Advanced Web Design **Units: 3**
- GD 153 - Data and Design **Units: 3**
- GD 155 - Designing for Interactions **Units: 3**
- GD 157 - Motion Graphics **Units: 3**
- GD 158 - Design Practicum **Units: 3**
- GD 159 - Immersive Design **Units: 3**
- GD 163 - Illustration **Units: 3**
- GD 165 - Digital Illustration Techniques **Units: 3**
- GD 167 - Advanced Illustration **Units: 3**
- GD 169 - Advanced Digital Illustration **Units: 3**
- GD 170 - Typographic Design **Units: 3**
- GD 171 - Advanced Typographic Design **Units: 3**
- GD 174 - Graphic Systems **Units: 3**
- ID 111 - Design Graphics III **Units: 3**
- ID 113 - Design History, Theory & Criticism II **Units: 3**
- ID 116 - Design Graphics IV **Units: 3**
- ID 120 - Design History/Theory & Tours III **Units: 3**
- ID 134 - Restoration and Preservation **Units: 3**
- ID 136 - Design Studio IV: Furniture/Product Design **Units: 3**
- ID 137 - Interior Architectural Graphics and Models **Units: 3**
- ID 138 - Design Studio V **Units: 4**
- ID 149S - Design Studio VII: Advanced Design **Units: 4**
- ID 150 - Senior Thesis Exhibits **Units: 2**
- ID 152IE - Design Practicum & Entrepreneurship **Units: 3**
- MCJ 131 - Online Media Design **Units: 3**
- MCJ 144 - Writing to Influence **Units: 3**

- MCJ 146 - Media Planning **Units: 3**
- MCJ 148 - Advertising Campaigns **Units: 3**

Culmination Class

Select from:

- GD 180 - Graphic Portfolio Development **Units: 3**
OR
- ID 155 - Design Studio VIII: Senior Thesis **Units: 4**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120**

*See advisor for prerequisites.

**General Education, MI, and Upper-division Writing courses can be double counted with major requirements. The courses include ARTH 10, ARTH 11, ART 20, ART 40, or ART 50 (Area C1), and ART 13 (Area E). See advisor for details.

Advising Notes

All courses required for the major must receive a letter grade. Student work may be retained for a limited period for display and accreditation visits.

The upper-division writing skills requirement is met 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.

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.

Interior Design, B.A.

Bachelor of Arts Degree Requirements

Major Requirements (77-78 units)

Art and Design Core (15 units)

- ARTH 10 - The Ancient Medieval Worlds **Units: 3**
OR
- ARTH 11 - The Early Modern World **Units: 3**
- ART 13 - Design **Units: 3**
- ART 20 - Drawing **Units: 3**
OR
- ID 43 - Design Graphics I **Units: 3**
- ART 24 - Beginning Printmaking **Units: 3**
OR
- ART 30 - Introduction to Photography **Units: 3**
OR
- ART 40 - Painting **Units: 3**
OR
- GD 37 - Graphic Design: Computer Imaging **Units: 3**
- ART 50 - Beginning Sculpture **Units: 3**
OR
- ART 60 - Beginning Ceramics **Units: 3**
OR
- ART 70 - Crafts **Units: 3**

Interior Design Requirements (62-63 units)

- ID 7 - Design Studio I **Units: 4**
- ID 70 - Design History, Theory & Criticism I **Units: 3**
- ID 71 - Design Studio II **Units: 4**
- ID 77 - Design Graphics II **Units: 3**
- ID 110 - Building Systems, Construction Documents & Codes **Units: 2**
- ID 111 - Design Graphics III **Units: 3**
- ID 112 - Design Studio III **Units: 4**
- ID 113 - Design History, Theory & Criticism II **Units: 3**
- ID 116 - Design Graphics IV **Units: 3**
OR
- IT 115 - Design and Documentation Systems **Units: 3**
- ID 120 - Design History/Theory & Tours III **Units: 3**
- ID 130 - Lighting Design **Units: 2**
- ID 131 - Design Materials & Specifications **Units: 3**
- ID 133 - Professional Practices **Units: 2**
- ID 134 - Restoration and Preservation **Units: 3**
OR
- ID 137 - Interior Architectural Graphics and Models **Units: 3**
OR

- ID 145 - Design Studio VI-c: Human/Environmental Topics **Units: 4**
- ID 136 - Design Studio IV: Furniture/Product Design **Units: 3**
- ID 138 - Design Studio V **Units: 4**
- ID 149S - Design Studio VII: Advanced Design **Units: 4**
- ID 150 - Senior Thesis Exhibits **Units: 2**
- ID 152IE - Design Practicum & Entrepreneurship **Units: 3**
- ID 155 - Design Studio VIII: Senior Thesis **Units: 4**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI) - *Interior Design majors are exempt from the MI requirement*
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. These courses include ARTH 10 or ARTH 11, ART 20, ART 40, ART 50 (Area C1), ART 13 (Area E). See advisor for details.

Advising Notes

All courses required for the major must receive a letter grade. Student work may be retained for a limited period for display and accreditation visits.

The upper-division writing skills requirement is met 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.

The General Education requirement of 48 units may be exceeded depending upon the selection of courses.

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 - Sport Administration, B.S.

Bachelor of Science Degree Requirements

Major Requirements (66 units)

Core Program (15 units)

- KINES 1 - Introductory Principles and Techniques for Physical Fitness Development **Units: 3**
- KINES 32 - Lifetime Fitness and Wellness **Units: 2 ***
- KINES 33 - Foundation of Sport Exercise Psychology **Units: 3**
- KINES 116 - Fundamentals of Biomechanics **Units: 3**
- KINES 118 - Fundamentals of Exercise Physiology **Units: 3**

Sport Administration Option (51 units)

- KINES 45 - Introduction to Sport Administration **Units: 3**
- KINES 146 - Risk Management of Sport & Exercise **Units: 3**
- KINES 147 - New Vent Sport **Units: 3**
- KINES 150I - Internship in Sport Administration **Units: 12**
- RA 150 - Sports and Entertainment Facility Management **Units: 3**
- RA 154 - Sports and Entertainment Facility Operations **Units: 4**

Select 23 units from:

- KINES 111 - The Olympic Games **Units: 3**
- RA 152 - Sports and Entertainment Facility Booking, Promotion and Box Office Operations **Units: 3**
- COMM 170 - Business and Professional Speaking **Units: 3**
- ECON 144 - Economics of Sports **Units: 3**
- ACCT 3 - Essentials of Accounting **Units: 3**
- ACCT 4A - Financial Accounting Principles and Systems **Units: 3**
- BA 179 - Legal & Ethical Aspects of Sports Marketing **Units: 3**
- FIN 120 - Principles of Finance **Units: 4**
- FIN 143 - Risk and Insurance **Units: 3**
- MGT 104 - Administrative Principles of Management **Units: 3**
- MGT 127 - Contemporary Leadership **Units: 3**
- MKTG 100S - Marketing Concepts **Units: 4**
- MKTG 150 - Sports Marketing **Units: 3**
- MKTG 153 - E-Marketing Technologies and Social Media **Units: 4**
- MKTG 160 - Professional Selling & Sales Force Management **Units: 4**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. See advisor for details.

Advising Notes

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.

CR/NC grading is not permitted in courses for the Kinesiology major, except in those courses which are designated CR/NC grading only.

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.

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.

In compliance with Federal Requirements for Posting Licensure and Certification Eligibility, please see the CSU Chancellor's Office calstate.edu website.

Latin American Studies, B.A.

Bachelor of Arts Degree Requirements

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.

Major Requirements (33 units)

Core (15 units)

15 units to be selected from the following:

Chicano and Latin American Studies:

- CLAS 70 - Introduction to Latin American Studies **Units: 3**
- CLAS 128 - Latinx Politics **Units: 3**
- CLAS 170 - Latin American Studies **Units: 3**
- CLAS 171 - Multicultural Brazil **Units: 3**
- CLAS 173 - Latin American Politics **Units: 3**

Economics:

- ECON 181 - Political Economy of Latin America **Units: 3**

History:

- HIST 8 - Republics of Latin America **Units: 3**
- HIST 166 - United States -- Latin American Diplomacy **Units: 3**

Senior Project (3 units)

Choose among:

- CLAS 150 - Research Methods **Units: 3**
- CLAS 172S - Migration in the Americas **Units: 3**
- HIST 169T - Studies in Latin American History **Units: 1-3**

- ECON 190 - Independent Study **Units: 1-3**

Electives (15 units)

- AIS 103 - California American Indians **Units: 3**
- ANTH 130 - Peoples and Cultures of the Southwest **Units: 3**
- ANTH 141 - Prehistory of North America **Units: 3**
- ANTH 143 - Archaeology and Prehistory of California **Units: 3**
- CLAS 112 - Pre-Hispanic Civilizations **Units: 3**
- CLAS 114 - Mexico and the Southwest 1810-1910 **Units: 3**
- CLAS 115 - Mexico-U.S. Relations Since-1910 **Units: 3**
- CLAS 128 - Latinx Politics **Units: 3**
- CLAS 171 - Multicultural Brazil **Units: 3**
- CLAS 172S - Migration in the Americas **Units: 3**
- CLAS 173 - Latin American Politics **Units: 3**
- ECON 114 - Economic Development of Poor Nations **Units: 3**
- ECON 179 - International Political Economy **Units: 3**
- GEOG 170T - Latin American Regions **Units: 1-3**
- HIST 145 - Spain and Portugal **Units: 3**
- HIST 160 - The Great American Civilizations: Maya, Aztec, Inca **Units: 3**
- HIST 162 - South America **Units: 3**
- HIST 165 - Modern Mexico **Units: 3**
- HIST 167 - Social Revolution in Latin America **Units: 3**
- HIST 169T - Studies in Latin American History **Units: 1-3**
- HIST 183 - The Hispanic Southwest **Units: 3**
- PLSI 146T - Area Studies in Latin America **Units: 1-4**
- PLSI 148 - Latin American Politics **Units: 3**
- ARTH 170 - Native North American **Units: 3**
- ARTH 173 - Pre-Columbian Mexico **Units: 3**
- ARTH 175 - Pre-Columbian Andes **Units: 3**
- HUM 130 - Latin American Cultures and Traditions **Units: 3**
- SPAN 125 - Hispanic Cultural Productions (taught in Spanish) **Units: 3**
- SPAN 129 - Mexican Culture (taught in Spanish) **Units: 3**
- SPAN 143 - Introduction to Spanish-American Literature **Units: 3**
- SPAN 145 - Mexican Literature **Units: 3**
- SPAN 147 - Twentieth Century Spanish-American Literature **Units: 3**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)

- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. See advisor for details.

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 program 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 Arts Degree Completion Program, B.A. (Continuing & Global Education)

The B.A. in Liberal Arts Degree Completion Program facilitates undergraduate degree completion for upper division students with a previous history of Fresno State academic success. The program is most suitable for working adults or those who otherwise would not return to Fresno State to complete a traditional degree program. The program offers significant flexibility through a choice of online courses to satisfy degree requirements within a one- to two-year program.

Through an innovative, online program of interactive and project-based learning, students gain depth of knowledge and make connections across disciplines. They learn to draw on rich and varied liberal arts to address current challenges in careers, local communities, and the world. Graduates leave with critical thinking, oral and written communication, and leadership skills fundamental to successful, resilient careers. The major also prepares students for graduate study in a range of fields.

Past Fresno State students with at least 70 units in good standing, who have completed at least 12 units in previous enrollment at the Fresno State campus, and who have not been enrolled at Fresno State for at least three years prior to enrollment in this program are eligible to apply. All lower division General Education (G.E.) requirements must be satisfied prior to enrollment. Students will work with an advisor to design a course of study to complete the required 25 units in the major, as well as any missing upper division G.E. requirements and electives. 120 units are required to complete the degree.

Program Mission Statement: This online degree completion program leading to a B.A. in Liberal Arts creates a pathway to degree completion for former Fresno State students who left the university in

good academic standing without having earned an undergraduate degree in any discipline.

Interdisciplinary studies in this program foster connections among disciplines and draw upon multiple areas of knowledge to develop student competence in analysis, communication, creativity, human diversity, ethics, and leadership in order to engage challenges in a variety of career and community contexts.

Coursework supports an interdisciplinary, liberal arts approach to issues of particular significance to residents of the Central Valley region. Critical thinking, communication, creativity, and problem solving based courses place regional questions in a global context and bridge liberal arts learning with career development and civic engagement.

Major Requirements (25-50 units)

Core Coursework (7 units)

- AH 116 - Humanities of the Modern Era **Units: 3**
- ENGL 160W - Writing Workshop **Units: 4**

Remaining Coursework (18-43 units)

Foundations in the Liberal Arts

- ANTH 105W - Applied Anthropology **Units: 3**
- COMM 170 - Business and Professional Speaking **Units: 3**
- ENGL 177 - Literature, Cinema and the Liberal Arts **Units: 4**
- HUM 110 - Humanities in Republican and Imperial Rome **Units: 3**
- LING 115 - Language, Culture, and Society **Units: 3**
- PHIL 150 - Foundations of Knowledge **Units: 3**

Regional Focus

- EES 168 - California's Earth System **Units: 3**
- ENGL 174 - Popular Fiction **Units: 3**
- PH 156 - Health & Well-being in the San Joaquin Valley **Units: 3**
- PLSI 103 - California Politics **Units: 3**
- SOC 150T - Special Topics Seminar **Units: 1-3**

National and Global Contexts

- CLAS 114 - Mexico and the Southwest 1810-1910 **Units: 3**
- MUSIC 187 - Pop Music: Jazz and Rock **Units: 3**
- NSCI 115 - Environmental Earth and Life Science **Units: 3**
- PH 104 - Global and Cultural Issues in Health **Units: 3**
- WGSS 120 - Women of Color in the United States **Units: 3**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*The total of 120 units requires a minimum 25 units completed within the Liberal Arts degree program. General Education, MI, and Upper-division Writing courses can be double counted with major requirements. These courses include ENGL 160W, and Program Course Offerings that fulfill all upper-division GE Requirements. See advisor for details.

Liberal Studies - ITEP Option, B.A.

Bachelor of Arts Degree Requirements

The Integrated Teacher Education Program (ITEP) option is an accelerated program that provides students with the opportunity to complete a degree in Liberal Studies and a Multiple Subject credential in four years. The Program is a Cohort model with online, hybrid, distance learning, and face-to-face instruction. Face-to-face and distance learning courses will be at the Fresno State South Valley Campus.

Policies and Procedures for ITEP Option

Admission to the program is a two-step process: (1) admission to the university and (2) admission to the ITEP Option for the Liberal Studies major. Applicants must meet all criteria for admission to the university and to the ITEP Option. Applicants who are admitted to the University may be admitted to the Liberal Studies major if not admitted to the ITEP Option. All applicants must:

- Be admitted to the University
- Complete the ITEP Option application
- Attain junior status (60 units) by the time of entrance to the program
- Have completed a documented field experience of at least 45 hours in a K-12 classroom or a

documented field experience deemed equivalent by the campus

- Have completed all required lower division General Education and major courses prescribed by the campus

For additional information, please contact Recruitment at 559-278-2048 to schedule an appointment.

Major Requirements (33 units)

- KINES 152 - Physical Education for Children **Units: 3**
 - LING 11 - Linguistics for Teachers **Units: 3**
 - MATH 10B - Structure and Concepts in Mathematics II **Units: 3**
 - LS 110WS - Writing in the K-8 Classroom **Units: 3**
 - CI 100 - Educational Applications of Technology **Units: 3**
 - COMM 114 - Communication and Learning **Units: 3**
 - LS 111 - Literacies, Languages, and Literature **Units: 3**
 - MATH 100 - Exploring Mathematics **Units: 3**
 - EES 9 - Introduction to Earth Science **Units: 3**
 - SOC 111 - Sociology of Race and Ethnicity **Units: 3**
- OR**
- SSCI 180 - Diversity in the U.S. **Units: 3**
 - EHD 50 - Introduction to Teaching **Units: 3** (or waiver form, prerequisite for Teaching Credential Program)

General Education Requirements for Liberal Studies - ITEP Option (49 units)

- COMM 3 - Fundamentals of Public Communication **Units: 3** [A1]
 - COMM 7 - Persuasion **Units: 3** [A1]
- OR**
- COMM 8 - Group Discussion **Units: 3** [A1]
 - ENGL 5B - Academic Literacy II **Units: 3** [A2]
- OR**
- ENGL 10 - Accelerated Academic Literacy **Units: 3** [A2]
 - Any A3 course [A3]
 - NSCI 1A - Integrated Science: Physics and Chemistry **Units: 4** [B1]
 - BIOL 10 - Life Science **Units: 3** [B2]
- OR**
- MATH 10A - Structure and Concepts in Mathematics I **Units: 3** [B4]
- OR**
- MATH 10AL - Structure and Concepts in Mathematics I w/Support **Units: 4** [B4]
- ART 1 - Art Forms **Units: 3** [C1]
 - ARTH 10 - The Ancient Medieval Worlds **Units: 3** [C1]

- ARTH 11 - The Early Modern World **Units: 3** [C1]
 - MUSIC 9 - Introduction to Music **Units: 3** [C1]
 - MUSIC 74 - Listener's Guide to Music **Units: 3** [C1]
- OR**
- DRAMA 62 - Theatre Today **Units: 3** [C1]
 - ENGL 20 - Introduction to Literature **Units: 4** [C1 or C2]
 - ENGL 30 - Readings in World Literature **Units: 4** [C1 or C2]
 - HUM 10 - Humanities from Antiquity to the Renaissance **Units: 3** [C1 or C2]
 - HUM 11 - Humanities from the Baroque to the Modern **Units: 3** [C1 or C2]
- OR**
- HIST 20 - World History I **Units: 3** *[C2]
 - HIST 11 - American History to 1877 **Units: 3** [D1]
 - GEOG 4 - World Geography **Units: 3** [D2]
 - CFS 39 - Introduction to Child Development **Units: 3** [E]
 - Any F course [F]
 - NSCI 115 - Environmental Earth and Life Science **Units: 3** [IB]
 - IAS 108 - Interdisciplinary Arts Studies **Units: 3** [IC]
 - SSCI 110 - California Studies **Units: 3** [ID]

ITEP Option Requirements (44 units)

- CI 162 - Understanding Children, Learning, and Development in TK-8 Classrooms **Units: 3**
- CI 163 - Curriculum and Pedagogy: Designing for Successful Teaching TK-8 **Units: 3**
- CI 175 - Science Instruction and Applied Technology **Units: 3**
- CI 176 - Mathematics Instruction and Applied Assessment **Units: 3**
- EHD 170 - Field Study C **Units: 9**
- EHD 178 - Field Study B/Grades K-3 **Units: 2**
- LEE 158 - Literacy Foundation TK-8 **Units: 3**
- LEE 159 - Culturally and Linguistically Sustaining Pedagogy in the TK-8 Context **Units: 3**
- LEE 160 - Inquiry and Puzzles of Practice A **Units: 3**
- LEE 166 - Disciplinary Literacies and Integrated Curriculum **Units: 3**
- LEE 167 - Inquiry and Puzzles of Practice B **Units: 3**
- LEE 169S - Inquiry and Puzzles of Practice C **Units: 3**
- SPED 179 - Differentiated Instruction and Classroom Management **Units: 3**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements - *see above General Education Requirements for the Liberal Studies - ITEP Option*
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total: 134 Units**

*HIST 20 is G.E. Area C2 for Liberal Studies students only. (For all other students, HIST 20 is G.E. Area D2.)

**General Education, MI, and Upper-division Writing courses can be double counted with major requirements. These courses include SOC 111 or SSCI 180 (Area MI), and LS 110WS. See advisor for details.

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.

Liberal Studies, B.A.

Bachelor of Arts Degree Requirements

The Liberal Studies Program includes coursework that provides subject matter proficiency for students who plan on pursuing a Multiple Subject (elementary grades) or Education Specialist teaching credential. This program includes specific General Education courses and additional courses in the major that are aligned to the California Commission on Teacher Credentialing content specifications in these seven core areas:

- Reading, Language, and Literature
- History and Social Sciences
- Mathematics
- Natural Sciences
- Visual and Performing Arts
- Physical Education
- Human Development

Attention: The Liberal Studies degree listed here is 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 Center for Advising and Student Services in the Kremen School of Education and Human Development for current program requirements.

This degree is specifically designed for students who intend to pursue the postbaccalaureate Multiple Subject or Education Specialist

teaching credential. Students who intend to teach at the secondary school level should major in the subject area they wish to teach.

Major Requirements (39 units)

- KINES 152 - Physical Education for Children **Units: 3**
- LING 11 - Linguistics for Teachers **Units: 3**
- MATH 10B - Structure and Concepts in Mathematics II **Units: 3**
- CI 100 - Educational Applications of Technology **Units: 3**
- COMM 114 - Communication and Learning **Units: 3**
- LING 132 - Linguistics and Reading **Units: 3**
- MATH 100 - Exploring Mathematics **Units: 3**
- EES 9 - Introduction to Earth Science **Units: 3**
- ENGL 117W - Writing from Children's Lit **Units: 3**
- OR**
- LS 110WS - Writing in the K-8 Classroom **Units: 3**
- SSCI 180 - Diversity in the U.S. **Units: 3**
- OR**
- SOC 111 - Sociology of Race and Ethnicity **Units: 3**
- LS 115 - Understanding and Applying Social Science Content, Pedagogy, & Technology in K-12 **Units: 3**
- OR**
- LS 120 - Community-Based Learning in STEM **Units: 3**

Select one course from (3 units)

- PSYCH 169 - Psychological Aspects of Physical Disability **Units: 3**
- RA 125 - Diversity and Inclusive Practices in Recreation Therapy and Recreation **Units: 3**
- SPED 120 - Introduction to Special Education **Units: 3**

Select one course from (3 units)

- ART 179 - Development of Artistic Expression **Units: 3**
- DANCE 160S - Creative Movement for Children **Units: 3**
- DRAMA 136S - Puppetry **Units: 3**
- DRAMA 137 - Creative Dramatics **Units: 3**
- MUSIC 153 - Children's Music **Units: 3**

General Education Requirements for Liberal Studies (49-51 units)

- COMM 3 - Fundamentals of Public Communication **Units: 3** [A1]
- COMM 7 - Persuasion **Units: 3** [A1]
- OR**
- COMM 8 - Group Discussion **Units: 3** [A1]

- ENGL 5B - Academic Literacy II **Units: 3 [A2]**
OR
- ENGL 10 - Accelerated Academic Literacy **Units: 3 [A2]**
- Any A3 course **Units: 3 [A3]**
- NSCI 1A - Integrated Science: Physics and Chemistry **Units: 4 [B1]**
- BIOL 10 - Life Science **Units: 3 [B2]**
- MATH 10AL - Structure and Concepts in Mathematics I w/Support **Units: 4 [B4]**
- ART 1 - Art Forms **Units: 3 [C1]**
- ARTH 10 - The Ancient Medieval Worlds **Units: 3 [C1]**
- MATH 10A - Structure and Concepts in Mathematics I **Units: 3 [B4]**
- ARTH 11 - The Early Modern World **Units: 3 [C1]**
- MUSIC 9 - Introduction to Music **Units: 3 [C1]**
- MUSIC 74 - Listener's Guide to Music **Units: 3 [C1]**
OR
- DRAMA 62 - Theatre Today **Units: 3 [C1]**
- ENGL 20 - Introduction to Literature **Units: 4 [C1 or C2]**
- ENGL 30 - Readings in World Literature **Units: 4 [C1 or C2]**
- HUM 10 - Humanities from Antiquity to the Renaissance **Units: 3 [C1 or C2]**
OR
- HUM 11 - Humanities from the Baroque to the Modern **Units: 3 [C1 or C2]**
- HIST 20 - World History I **Units: 3 [C2] ***
- HIST 11 - American History to 1877 **Units: 3 [D1]**
- GEOG 4 - World Geography **Units: 3 [D2]**
- CFS 39 - Introduction to Child Development **Units: 3 [E]**
- Any F course **Units: 3 [F]**
- NSCI 115 - Environmental Earth and Life Science **Units: 3 [IB]**
- IAS 108 - Interdisciplinary Arts Studies **Units: 3 [IC]**
- SSCI 110 - California Studies **Units: 3 [ID]**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements - *see above General Education Requirements for the Liberal Studies Major*
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120**

*HIST 20 is G.E. Area C2 for liberal studies students only. (For all other students, HIST 20 is G.E. Area D2)

**General Education, MI, and Upper-division Writing courses can be double counted with major requirements. These courses include SOC 111 or SSCI 180 (Area MI), and ENGL 117W or LS 110WS. See advisor for details.

Visual and Performing Arts Requirement Note

Selection of a visual and performing arts course in the major (ART 179, MUSIC 153, DRAMA 136S, DRAMA 136S, DRAMA 137 or DANCE 160S) must be from a discipline that is different from that taken to meet G.E. Area C1.

Multiple Subject Credential

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/SPED 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

Prerequisite:

- EHD 50 - Introduction to Teaching **Units: 3**

Prerequisite or corequisite*:

- CI 100 - Educational Applications of Technology **Units: 3**

Courses

- CI 171 - Understanding the Learner, Instructional Design and Assessment **Units: 3**
- CI 175 - Science Instruction and Applied Technology **Units: 3**
- CI 176 - Mathematics Instruction and Applied Assessment **Units: 3**
- EHD 170 - Field Study C **Units: 9**
- EHD 174 - Field Study A/Grades 4-8 **Units: 2**
- EHD 178 - Field Study B/Grades K-3 **Units: 2**
- LEE 172 - Cultural & Language Context of the Classroom **Units: 3**

- LEE 173 - Teaching Reading and Social Studies in Grades 4-8 **Units: 3**
- LEE 177 - Teaching Reading and the Arts in K-3 **Units: 3**
- SPED 179 - Differentiated Instruction and Classroom Management **Units: 3**

Total: 51 Units

Advising Notes

- Consult advisor for sequencing of courses
- 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.

* CI 100 may be taken concurrently with Phase 1 courses. CI 100 must be completed prior to beginning Phase 2 courses.

Education Specialist Credential

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/SPED 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.

Prerequisite:

- EHD 50 - Introduction to Teaching **Units: 3**

Prerequisite or corequisite*:

- CI 100 - Educational Applications of Technology **Units: 3**

Courses

- CI 171 - Understanding the Learner, Instructional Design and Assessment **Units: 3**
- CI 175 - Science Instruction and Applied Technology **Units: 3**
- CI 176 - Mathematics Instruction and Applied Assessment **Units: 3**
- LEE 172 - Cultural & Language Context of the Classroom **Units: 3**
- LEE 173 - Teaching Reading and Social Studies in Grades 4-8 **Units: 3**
- LEE 177 - Teaching Reading and the Arts in K-3 **Units: 3**
- EHD 174 - Field Study A/Grades 4-8 **Units: 2**
- EHD 178 - Field Study B/Grades K-3 **Units: 2**
- SPED 125 - Positive Behavioral and Social Supports **Units: 3**

- SPED 130 - Assessing Students with Special Needs **Units: 3**
- SPED 156 - Effective Communication and Collaborative Partnerships **Units: 3**
- SPED 171 - Initial Practicum in Mild/Moderate Disabilities **Units: 3**
- SPED 172 - Initial Practicum in Moderate/Severe Disabilities **Units: 3**
- SPED 175 - Final Practicum in Mild/Moderate Disabilities **Units: 6**
- SPED 176 - Final Practicum in Moderate/Severe Disabilities **Units: 6**

Mild/Moderate

- SPED 126 - Applied Behavior Analysis **Units: 3**
- SPED 136 - Assessment, Curriculum Design and Instruction for Students with Mild/Moderate Disabilities **Units: 3**
- SPED 137 - Curriculum and Instruction for Students with Mild/Moderate and Extensive Learning Needs **Units: 4**

Moderate/Severe

- SPED 145 - Special Education, Law and Ethics **Units: 3**
- SPED 146 - Assessment and Instruction for Students with Moderate/Severe Disabilities **Units: 3**
- SPED 247 - Advanced Environmental Design and Instruction for Students with Moderate/Severe Disabilities **Units: 3**

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 visit the KSOEHD website at <https://kremen.fresnostate.edu/>.

Linguistics - Computational Linguistics Option, B.A.

Bachelor of Arts Degree Requirements

A B.A. with a major in linguistics requires 36-46 units completed, depending on which option, 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.

In each option, students receive a basic grounding in the nature and structure of human language. The option in Computational Linguistics is a joint major with Computer Science and prepares students in the fundamentals of computer software development for natural language applications.

Major Requirements (45-46 units)

Core Requirements (24 units)

- LING 100 - General Linguistics **Units: 3**
- LING 139 - General Phonetics **Units: 3**
- LING 142 - Phonology **Units: 3**
- LING 143 - Syntax **Units: 3**
- LING 148 - Sociolinguistics **Units: 3**
- LING 151 - Languages of the World **Units: 3**
- LING 156 - Semantics **Units: 3**
- LING 165 - Language Acquisition **Units: 3**

Computational Linguistics Option (21-22 units)

- CSCI 60 - Foundations of Computer Science **Units: 3**
- CSCI 150 - Introduction to Software Engineering **Units: 3**
- CSCI 152E - Software Engineering **Units: 3**

Prerequisites: (8 units)

- CSCI 40 - Introduction to Programming and Problem Solving **Units: 4**
- CSCI 41 - Introduction to Data Structures **Units: 4**

Elective: (3-4 units)

Select from

- LING 145 - Historical Linguistics **Units: 3**
- LING 153 - Psycholinguistics **Units: 3**
- LING 154 - Field Linguistics **Units: 3**
- CGSCI 100 - Foundations of Cognitive Science **Units: 4**
OR
- CSCI 115 - Algorithms and Data Structures **Units: 4**
- CSCI 117 - Structures of Programming Languages **Units: 4**
- CSCI 119 - Introduction to Formal Languages and Automata **Units: 3**
- CSCI 130 - Web Programming **Units: 3**
- CSCI 164 - Artificial Intelligence Programming **Units: 3**
- CSCI 166 - Principles of Artificial Intelligence **Units: 3**
- CSCI 186 - Formal Languages and Automata **Units: 3**

Additional Requirement

- MATH 75 - Calculus I **Units: 4** (see advising notes)

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. See advisor for details.

Advising Notes

CR/NC grading is not permitted in the linguistics major.

MATH 75 (GE Area B4) is a prerequisite for CSCI 40.

See advisor for list of approved electives.

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 advisor in the language to determine their placement in lower- or upper-division coursework.

Linguistics - General Linguistics Option, B.A.

Bachelor of Arts Degree Requirements

A B.A. with a major in linguistics requires 36-46 units completed, depending on which option, 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.

In each option, students receive a basic grounding in the nature and structure of human language. The General Linguistics option provides a range of courses to prepare students for graduate study, fieldwork, and employment where linguistic skills are essential.

Major Requirements (37 units)

Core Requirements (24 units)

- LING 100 - General Linguistics **Units: 3**
- LING 139 - General Phonetics **Units: 3**
- LING 142 - Phonology **Units: 3**
- LING 143 - Syntax **Units: 3**
- LING 148 - Sociolinguistics **Units: 3**
- LING 151 - Languages of the World **Units: 3**
- LING 156 - Semantics **Units: 3**
- LING 165 - Language Acquisition **Units: 3**

General Linguistics Option (13 units)

- LING 145 - Historical Linguistics **Units: 3**
- LING 153 - Psycholinguistics **Units: 3**
- LING 154 - Field Linguistics **Units: 3**
- CGSCI 100 - Foundations of Cognitive Science **Units: 4**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. See advisor for details.

Advising Notes

CR/NC grading is not permitted in the linguistics major.

See advisor for list of approved electives.

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 advisor in the language to determine their placement in lower- or upper-division coursework.

Linguistics - Interdisciplinary Language Studies Option, B.A.

Bachelor of Arts Degree Requirements

A B.A. with a major in linguistics requires 36-46 units completed, depending on which option, 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.

In each option, students receive a basic grounding in the nature and structure of human language. The option in Interdisciplinary Language Studies supplements the core foundation with extensive study in one or more languages other than English, and can thus prepare students for work in translating and interpreting, among other careers where extensive knowledge of language is required.

Major Requirements (44-47 units)

Core Requirements (24 units)

- LING 100 - General Linguistics **Units: 3**
- LING 139 - General Phonetics **Units: 3**
- LING 142 - Phonology **Units: 3**
- LING 143 - Syntax **Units: 3**
- LING 148 - Sociolinguistics **Units: 3**
- LING 151 - Languages of the World **Units: 3**
- LING 156 - Semantics **Units: 3**
- LING 165 - Language Acquisition **Units: 3**

Interdisciplinary Language Studies Option (20-23 units)

- LING 154 - Field Linguistics **Units: 3**

Choose Plan A or Plan B

A. Depth Plan in One Language

(Spanish, French, Japanese, German, Chinese, or Hmong)

See advising notes 4 and 5.

Required for Spanish:

- SPAN 130 - Introduction to Spanish Linguistics **Units: 3**
- SPAN 137 - Applied Spanish Linguistics **Units: 3**
- SPAN 139 - Spanish of the Southwest **Units: 3**

- Electives approved by the advisor **Units: 9**

Required for French:

- FREN 103 - Advanced Grammar and Composition **Units: 3**
- FREN 132 - French Phonology and Structural Analysis **Units: 3**
- Electives approved by the advisor **Units: 9**

Required for Japanese:

- JAPN 1A - Elementary Japanese **Units: 4**
- JAPN 1B - Elementary Japanese **Units: 4**
- JAPN 2A - Intermediate Japanese **Units: 3**
- JAPN 2B - Intermediate Japanese **Units: 3**
- JAPN 100 - Advanced Japanese **Units: 3**
- LING 120 - Japanese Language and Culture **Units: 3**

Required for German:

- GERM 1A - Elementary German **Units: 4**
- GERM 1B - Elementary German **Units: 4**
- GERM 2A - Intermediate German **Units: 3**
- GERM 2B - Intermediate German **Units: 3**
- GERM 101 - Composition **Units: 3**
- GERM 150 - Advanced Conversation **Units: 3**

Required for Chinese:

- CHIN 1A - Elementary Chinese 1A **Units: 4**
- CHIN 1B - Elementary Chinese **Units: 4**
- CHIN 2A - Intermediate Chinese **Units: 3**
- CHIN 2B - Intermediate Chinese **Units: 3**
- CHIN 100 - Advanced Chinese **Units: 3**

Required for Hmong:

- HMONG 1A - Basic Hmong **Units: 4**
- HMONG 1B - Basic Hmong **Units: 4**
- HMONG 4 - Beginning Literacy for Hmong Speakers **Units: 3**
- HMONG 100 - Intermediate Reading and Composition **Units: 3**
- HMONG 101 - Advanced Reading and Composition **Units: 3**
- LING 121 - Hmong Language, Culture, and Identity **Units: 3**

B. Breadth Plan lower-division and/or upper-division courses in various languages

(American Sign Language, Arabic, Armenian, Chinese, French, German, Greek, Hebrew, Hmong, Italian, Japanese, Latin, Persian, Portuguese, Sanskrit, Spanish.) See advising notes 4 and 5.

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. Language IB Courses could fulfill GE Area C2. See advisor for details.

Advising Notes

CR/NC grading is not permitted in the linguistics major.

See advisor for list of approved electives.

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 advisor in the language to determine their placement in lower- or upper-division coursework.

Students must fulfill the unit requirement by taking language courses in a minimum of two languages. Students must maintain a B average in the languages taken.

Literature courses in the language may be used with permission of advisor. Except for LING 120 and LING 121, courses taught in English do not count toward the required courses for Plan A or Plan B.

Linguistics - TESOL/SLAT (Second Language Acquisition & Teaching) Option, B.A.

Bachelor of Arts Degree Requirements

A B.A. with a major in linguistics requires 36-46 units completed, depending on which option, 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.

In each option, students receive a basic grounding in the nature and structure of human language. The option in Teaching English as a Second Language provides students with a foundation for teaching ESL, or for graduate study in teaching ESL. This degree is especially useful when combined with a California teaching credential.

Major Requirements (42 units)

Core Requirements (24 units)

- LING 100 - General Linguistics **Units: 3**
- LING 139 - General Phonetics **Units: 3**
- LING 142 - Phonology **Units: 3**
- LING 143 - Syntax **Units: 3**
- LING 148 - Sociolinguistics **Units: 3**
- LING 151 - Languages of the World **Units: 3**
- LING 156 - Semantics **Units: 3**
- LING 165 - Language Acquisition **Units: 3**

TESOL/SLAT (Second Language Acquisition and Teaching) Option (18 units)

- LING 132 - Linguistics and Reading **Units: 3**
- LING 141 - TESOL/SLAT (Second Language Acquisition & Teaching) **Units: 3**
- LING 146 - Practical English Grammar for Language Teachers **Units: 3**
- LING 153 - Psycholinguistics **Units: 3**
- LING 155 - Computer Assisted Language Learning **Units: 3**
- LING 171I - Practicum in TESOL/SLAT **Units: 3**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. See advisor for details.

Advising Notes

CR/NC grading is not permitted in the linguistics major.

See advisor for list of approved electives.

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 advisor in the language to determine their placement in lower- or upper-division coursework.

Mass Communication and Journalism - Advertising and Public Relations Option, B.A.

Bachelor of Arts Degree Requirements

Majors must complete a minimum of 37 semester units of mass communication and journalism courses with a grade of C or better in each course. Each student will take 19 units of MCJ core courses and 18 units of courses in their selected option.

Each MCJ major must select an option, which is an area of specialization within the major. The options are advertising and public relations, broadcast and multiplatform journalism, digital journalism, and film and media arts. The courses required for each option are listed under Major Requirements.

Major Requirements (37 units)

MCJ Core Courses:

- MCJ 2 - Media Writing **Units: 3**
- MCJ 15 - Filmmaking I **Units: 3**
- MCJ 40 - Introduction to Advertising and Public Relations **Units: 3**
- MCJ 164 - Applied Media Research **Units: 3**
- MCJ 171 - Media Law and Ethics **Units: 3**
- MCJ 199 - Capstone **Units: 4**

Advertising and Public Relations Option Requirements

- MCJ 144 - Writing to Influence **Units: 3**
- MCJ 147S - Digital and Social Media **Units: 3**

- MCJ 158W - Advanced Writing to Influence **Units: 3**
- MCJ 191I - Internship **Units: 1-3**

Two Courses Selected From:

- MCJ 106 - Publication Design **Units: 3**
- MCJ 143 - Media Sales **Units: 3**
- MCJ 146 - Media Planning **Units: 3**
- MCJ 150 - Strategic Political Campaigns **Units: 3**
- MCJ 155SW - Nonprofit Public Relations and Development Writing **Units: 3**
- MCJ 157 - Public Relations and Advertising Agency **Units: 3**
- MCJ 180 - Water and Strategic Media **Units: 3**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units) - *see note 2*
- Multicultural and International (MI) - *see note 3*
- Upper-division Writing - *see note 4*
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total: 120 Units*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. See advisor for details.

Advising Notes

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.

It is recommended that students take MCJ courses for the General Education requirements package: MCJ 1, and MCJ 101, MCJ 175 or MCJ 178

It is recommended that students take an MCJ course for the MI requirement: MCJ 176 or MCJ 179

Students must meet all university graduation requirements. This includes the Upper-Division Writing requirement, which may be met by taking MCJ 102W or a "W" course from another department.

Mass Communication and Journalism - Broadcast/Multiplatform Journalism Option, B.A.

Bachelor of Arts Degree Requirements

Majors must complete a minimum of 37 semester units of mass communication and journalism courses with a grade of C or better in each course. Students will take 19 units of MCJ core courses and 18 units of courses in their selected option.

Each MCJ major must select an option, which is an area of specialization within the major. The options are advertising and public relations, broadcast and multiplatform journalism, digital journalism, and film and media arts. The courses required for each option are listed under Major Requirements.

Major Requirements (37 units)

MCJ Core Courses:

- MCJ 2 - Media Writing **Units: 3**
- MCJ 15 - Filmmaking I **Units: 3**
- MCJ 40 - Introduction to Advertising and Public Relations **Units: 3**
- MCJ 164 - Applied Media Research **Units: 3**
- MCJ 171 - Media Law and Ethics **Units: 3**
- MCJ 199 - Capstone **Units: 4**

Broadcast/Multiplatform Journalism Option Requirements

- MCJ 14 - Multimedia and Mobile Journalism **Units: 3**
- MCJ 102W - Reporting **Units: 3**
- MCJ 121 - News Video Production **Units: 3**
- MCJ 124 - Intermediate Broadcast News Writing **Units: 3**
- MCJ 126 - Media Performance **Units: 3**

Choose One Course:

- MCJ 17 - Photojournalism **Units: 3**
- MCJ 123 - Fresno State Focus Crew **Units: 3**
- MCJ 125 - Radio Reporting and Podcasting **Units: 3**
- MCJ 129 - Global Campus Studio **Units: 3**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units) - *see note 2*
- Multicultural and International (MI) - *see note 3*
- Upper-division Writing - *see note 4*
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total: 120 Units*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. See advisor for details.

Advising Notes

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.

It is recommended that students take MCJ courses for the General Education requirements package: MCJ 1, and MCJ 101, MCJ 175 or MCJ 178

It is recommended that students take an MCJ course for the MI requirement: MCJ 176 or MCJ 179

Students must meet all university graduation requirements. This includes the Upper-Division Writing requirement, which may be met by taking MCJ 102W or a "W" course from another department.

Mass Communication and Journalism - Digital Journalism Option, B.A.

Bachelor of Arts Degree Requirements

Majors must complete a minimum of 37 semester units of mass communication and journalism courses with a grade of C or better in each course. Each student will take 19 units of MCJ core courses and 18 units of courses in their selected option.

Each MCJ major must select an option, which is an area of specialization within the major. The options are advertising and public relations, broadcast and multiplatform journalism, digital journalism, and film and media arts. The courses required for each option are listed under Major Requirements.

Major Requirements (37 units)

MCJ Core Courses:

- MCJ 2 - Media Writing **Units: 3**
- MCJ 15 - Filmmaking I **Units: 3**
- MCJ 40 - Introduction to Advertising and Public Relations **Units: 3**
- MCJ 164 - Applied Media Research **Units: 3**
- MCJ 171 - Media Law and Ethics **Units: 3**
- MCJ 199 - Capstone **Units: 4**

Digital Journalism Option Requirements

- MCJ 102W - Reporting **Units: 3**
- MCJ 104 - Editing for Digital Journalism **Units: 3**

Pick Four From (12 units)

- MCJ 17 - Photojournalism **Units: 3**
- MCJ 101 - News and Media Literacy **Units: 3**
- MCJ 105 - News Practicum **Units: 3**
- MCJ 106 - Publication Design **Units: 3**
- MCJ 108 - Public Affairs Reporting **Units: 3**
- MCJ 109 - Law and Order Reporting **Units: 3**
- MCJ 124 - Intermediate Broadcast News Writing **Units: 3**
- MCJ 125 - Radio Reporting and Podcasting **Units: 3**
- MCJ 131 - Online Media Design **Units: 3**
- MCJ 174 - History of Mass Media **Units: 3**
- MCJ 177T - Media Topics **Units: 3**
- MCJ 190 - Independent Study **Units: 1-3**
- MCJ 191I - Internship **Units: 1-3**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units) - *see note 2*
- Multicultural and International (MI) - *see note 3*
- Upper-division Writing - *see note 4*
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total: 120 Units*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. See advisor for details.

Advising Notes

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.

It is recommended that students take MCJ courses for the General Education requirements package: MCJ 1, and MCJ 101, MCJ 175 or MCJ 178

It is recommended that students take a MCJ course for the MI requirement: MCJ 176 or MCJ 179

Students must meet all university graduation requirements. This includes the Upper-Division Writing requirement, which may be met by taking MCJ 102W or a "W" course from another department.

Mass Communication and Journalism - Film and Media Arts Option, B.A.

Bachelor of Arts Degree Requirements

Majors must complete a minimum of 37 semester units of mass communication and journalism courses with a grade of C or better in each course. Each student will take 19 units of MCJ core courses and 18 units of courses in their selected option.

Each MCJ major must select an option, which is an area of specialization within the major. The options are advertising and public relations, broadcast and multiplatform journalism, digital journalism, and film and media arts. The courses required for each option are listed under Major Requirements.

Major Requirements (37 units)

MCJ Core Courses:

- MCJ 2 - Media Writing **Units: 3**
- MCJ 15 - Filmmaking I **Units: 3**
- MCJ 40 - Introduction to Advertising and Public Relations **Units: 3**
- MCJ 164 - Applied Media Research **Units: 3**
- MCJ 171 - Media Law and Ethics **Units: 3 and**
- MCJ 199 - Capstone **Units: 4**

Film and Media Arts Option Requirements

- MCJ 4 - Writing for Visual Media **Units: 3**
- MCJ 60 - Film Theory **Units: 3**
- MCJ 115 - Filmmaking II **Units: 3**

One Advanced Filmmaking Course from: (3 units)

- MCJ 116 - Documentary Film and Video Production **Units: 3**
- MCJ 117 - Narrative Filmmaking **Units: 3**

Two Film and Media Arts Electives Selected From: (6 units)

- MCJ 17 - Photojournalism **Units: 3**
 - MCJ 111 - Post-Production **Units: 3**
 - MCJ 112 - Audio Production **Units: 3**
 - MCJ 113 - Advanced Television Studio Production **Units: 3**
 - MCJ 114W - Screenwriting **Units: 3**
 - MCJ 116 - Documentary Film and Video Production **Units: 3**
 - MCJ 117 - Narrative Filmmaking **Units: 3**
 - MCJ 118S - Corporate and Nonprofit Media Projects **Units: 3**
 - MCJ 119E - Creative Media Production and Entrepreneurship **Units: 3**
 - MCJ 120 - Multimedia Production Studio Practicum **Units: 1-3**
 - MCJ 136 - Media Projects **Units: 1-3**
- OR**
- MCJ 163 - Media and Pop Culture **Units: 3**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units) - *see note 2*
- Multicultural and International (MI) - *see note 3*
- Upper-division Writing - *see note 4*
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total: 120 Units

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. See advisor for details.

Advising Notes

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.

It is recommended that students take MCJ courses for the General Education requirements package: MCJ 1, and MCJ 101, MCJ 175 or MCJ 178

It is recommended that students take an MCJ course for the MI requirement: MCJ 176 or MCJ 179

Students must meet all university graduation requirements. This includes the Upper-Division Writing requirement, which may be met by taking MCJ 102W or a "W" course from another department.

Mathematics - Applied Math Option, B.S.

Bachelor of Science Degree Requirements

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 3 and MATH 5. It is strongly recommended that such study be completed before entrance to the university.

Major Requirements (50 - 55 units)

Core Curriculum (34-39 units)

- MATH 75 - Calculus I **Units: 4 (Area B4)**
OR
- MATH 75A - Calculus with Review IA **Units: 4 (Area B4)**
AND
- MATH 75B - Calculus with Review IB **Units: 4**
- MATH 76 - Calculus II **Units: 4**
- MATH 77 - Calculus III **Units: 4**
- MATH 81 - Elementary Differential Equations with Linear Algebra **Units: 3**
- MATH 101 - Statistical Methods **Units: 4**
OR
- MATH 107 - Mathematical Statistics **Units: 3**
- MATH 111 - Transition to Advanced Mathematics **Units: 4**
- MATH 151 - Principles of Algebra **Units: 4**
- MATH 152 - Linear Algebra **Units: 4**

- MATH 171 - Intermediate Mathematical Analysis I **Units: 4**

Option Specific Electives (16 units)

Four courses from the following list (12 units):

- MATH 109 - Applied Probability **Units: 3**
- MATH 121 - Numerical Analysis I **Units: 3**
- MATH 122 - Numerical Analysis II **Units: 3**
- MATH 123 - Mathematical Modeling **Units: 3**
- MATH 128 - Applied Complex Analysis **Units: 3**
- MATH 181 - Differential Equations **Units: 3**
- MATH 182 - Partial Differential Equations **Units: 3**

And The Following Two Courses:

- MATH 193A - JR SEM APPLIED MATH **Units: 1**
- MATH 198 - Senior Project **Units: 3**

Additional Requirements (10 - 11 units)

- CSCI 40 - Introduction to Programming and Problem Solving **Units: 4**
- CSCI 41 - Introduction to Data Structures **Units: 4**
OR
- MATH 120 - Mathematical Software and Programming **Units: 3**
- PHYS 4A - Mechanics and Wave Motion **Units: 3 (see note 1)**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units) - *see notes 1 and 2*
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. See advisor for details.

The **Culminating Experience** for the Applied Mathematics Option consists of the following:

- A Junior Seminar (MATH 193A) in Applied Mathematics in the spring semester of the year prior to graduation, and
- A Senior Project (MATH 198) in Applied Mathematics which will include a report and a presentation in the Junior Seminar in the spring semester of student's graduating year.

Advising Notes

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.

Three units of MATH 75 (or MATH 75A) also will satisfy the G.E. Foundation B4 requirement.

See Mathematics Road Map at

<http://www.fresnostate.edu/degreeroadmap/>

Advising Requirements. It is strongly recommended, to all math majors, to have an advising session at least once a semester. See the department chair for assignment to an advisor.

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.

Mathematics - General Math Option, B.S.

Bachelor of Science Degree

Requirements

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 3 and MATH 5. It is strongly recommended that such study be completed before entrance to the university.

Major Requirements (50-60 units)

Core Curriculum (34-39 units)

- MATH 75 - Calculus I Units: 4 (Area B4)
OR

- MATH 75A - Calculus with Review IA Units: 4 (Area B4)
AND

- MATH 75B - Calculus with Review IB Units: 4

- MATH 76 - Calculus II Units: 4

- MATH 77 - Calculus III Units: 4

- MATH 81 - Elementary Differential Equations with Linear Algebra Units: 3

- MATH 101 - Statistical Methods Units: 4

OR

- MATH 107 - Mathematical Statistics Units: 3

- MATH 111 - Transition to Advanced Mathematics Units: 4

- MATH 151 - Principles of Algebra Units: 4

- MATH 152 - Linear Algebra Units: 4

- MATH 171 - Intermediate Mathematical Analysis I Units: 4

Option Specific Electives (16-21 units)

Five mathematics courses, upper-division or graduate, minimum of 3 units per course, **excluding**

- MATH 100 - Exploring Mathematics Units: 3
- MATH 102 - Introduction to Biostatistics Units: 4
- MATH 133 - Number Theory for Liberal Studies Units: 3
- MATH 134 - Geometry for Liberal Studies Units: 3
- MATH 137 - Exploring Statistics Units: 3
- MATH 138 - Exploring Algebra Units: 3
- MATH 139 - Advanced Algebra for Middle School Teachers Units: 4

One of The Courses (1 unit)

as long as it agrees with the chosen Culminating Experience (see note 1)

- MATH 193A - JR SEM APPLIED MATH Units: 1
- MATH 193B - JR SEM PURE MATH Units: 1
- MATH 193C - RESEARCH SEM STATISTICS Units: 1
- MATH 193D - JR SEM MATH TEACH Units: 1

Additional Requirements (7 units)

- CSCI 40 - Introduction to Programming and Problem Solving Units: 4
- PHYS 4A - Mechanics and Wave Motion Units: 3 (see note 2)

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units) - *see notes 2 and 3*
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. See advisor for details.

The **Culminating Experience** for this option can be any of the Culminating Experiences from the other options in the B.S. in Mathematics (as listed below), as long as students have the required prerequisites:

- MATH 193A + MATH 198 (in Applied Mathematics) or
- MATH 193B + MATH 198 (in Pure Mathematics) or
- MATH 193C or
- MATH 149S. Students choosing this Culminating Experience may take any of the MATH 193A, MATH 193B, MATH 193C or MATH 193D seminars, assuming that they have the prerequisites.

Advising Notes

Students choosing this option will be able to select their MATH electives freely, as long as this decision is consistent with the Culminating Experience they choose to have.

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.

Three units of MATH 75 (or MATH 75A) also will satisfy the G.E. Foundation B4 requirement.

See Mathematics Road Map at

<http://www.fresnostate.edu/degreeroadmap/>

Advising Requirements. It is strongly recommended, to all math majors, to have an advising session at least once a semester. See the department chair for assignment to an advisor.

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.

Mathematics - Integrated Credential Option, B.S.

Bachelor of Science Degree Requirements

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 3 and MATH 5. It is strongly recommended that such study be completed before entrance to the university.

Major Requirements (53 - 57 units)

Core Curriculum (35 -39 units)

- MATH 75 - Calculus I **Units: 4** (Area B4)
OR
- MATH 75A - Calculus with Review IA **Units: 4** (Area B4)
AND
- MATH 75B - Calculus with Review IB **Units: 4**
- MATH 76 - Calculus II **Units: 4**
- MATH 77 - Calculus III **Units: 4**
- MATH 81 - Elementary Differential Equations with Linear Algebra **Units: 3**
- MATH 101 - Statistical Methods **Units: 4**
- MATH 111 - Transition to Advanced Mathematics **Units: 4**
- MATH 151 - Principles of Algebra **Units: 4**
- MATH 152 - Linear Algebra **Units: 4**
- MATH 171 - Intermediate Mathematical Analysis I **Units: 4**

Option Specific Electives (18 units)

- MATH 143 - History of Mathematics **Units: 4**
- MATH 145 - Problem Solving **Units: 3**
- MATH 149S - Capstone Mathematics for Teachers **Units: 4**
- MATH 161 - Principles of Geometry **Units: 3**
- MATH 123 - Mathematical Modeling **Units: 3**
- MATH 193D - JR SEM MATH TEACH **Units: 1**

Additional Requirements (8 units)

- CSCI 40 - Introduction to Programming and Problem Solving **Units: 4**
- PHYS 4A - Mechanics and Wave Motion **Units: 3** (Area B1)

- PHYS 4AL - Laboratory in Mechanics and Wave Motion

Units: 1 (Area B1)

Credential Requirements (34 units)

- CI 151 - Social Contexts of Teaching and Learning **Units: 3**
- CI 152 - Adolescent Learning and Development **Units: 3**
- CI 161 - Content Area Methods and Materials in Secondary Teaching **Units: 3**
- LEE 157 - Teaching English Learners in Secondary Classrooms **Units: 3**
- EHD 154A - Initial Student Teaching Seminar **Units: 1**
- EHD 154B - Final Student Teaching Seminar - Mathematics **Units: 1**
- EHD 155A - Student Teaching in Secondary School **Units: 4**
- EHD 155B - Student Teaching in Secondary School - Math **Units: 5-10**
- SPED 158 - Differentiated Instruction in Inclusive Secondary Settings **Units: 3**
- LEE 156 - Content Area Literacy and Communication in Secondary Classrooms **Units: 3**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units) - *see notes 1, 3, 4 and 5*
- Multicultural and International (MI) - *see note 2*
- Upper-division Writing - *see note 2*
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total: 134 Units*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. See advisor for details.

The **Culminating Experience** for the Integrated Credential option is MATH 149S.

Advising Notes

PHYS 4AL is required for the Integrated Credential Option.
PHYS 4A and PHYS 4AL will satisfy the General Education (G.E.) Breadth requirement.

Students in the Integrated Credential Option are required to take ANTH 105W as a writing course that also satisfies the Multicultural/International Requirement.

Three units of MATH 75 (or MATH 75A) will satisfy the G.E. Foundation B4 requirement and MATH 123 will satisfy G.E. Area IB requirement. CI 152 is double counted as a Credential requirement and G.E. ID requirement for the Integrated Credential option.

Thirteen units of courses are double counted (B1/3, B4, IB, and ID), and 3 units of G.E. requirements are waived (A3) for the Integrated Credential Option.

See Mathematics Road Map at

<http://www.fresnostate.edu/degreeroadmap/>

Advising Requirements. It is strongly recommended, to all math majors, to have an advising session at least once a semester. See the department chair for assignment to an advisor.

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.

Mathematics - Pure Math Option, B.S.

Bachelor of Science Degree Requirements

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 3 and MATH 5. It is strongly recommended that such study be completed before entrance to the university.

Major Requirements (50-57 units)

Core Curriculum (34-39 units)

- MATH 75 - Calculus I **Units: 4 (Area B4)**
OR
- MATH 75A - Calculus with Review IA **Units: 4 (Area B4)**
AND
- MATH 75B - Calculus with Review IB **Units: 4**
- MATH 76 - Calculus II **Units: 4**
- MATH 77 - Calculus III **Units: 4**
- MATH 81 - Elementary Differential Equations with Linear Algebra **Units: 3**
- MATH 101 - Statistical Methods **Units: 4**
OR
- MATH 107 - Mathematical Statistics **Units: 3**

- MATH 111 - Transition to Advanced Mathematics **Units: 4**
- MATH 151 - Principles of Algebra **Units: 4**
- MATH 152 - Linear Algebra **Units: 4**
- MATH 171 - Intermediate Mathematical Analysis I **Units: 4**

Option Specific Electives (16-18 units)

- MATH 107 - Mathematical Statistics **Units: 3**
OR
- MATH 114 - Discrete Structures **Units: 3**
- MATH 128 - Applied Complex Analysis **Units: 3**
OR
- MATH 172 - Intermediate Mathematical Analysis II **Units: 4**
- MATH 161 - Principles of Geometry **Units: 3**
OR
- MATH 165 - Differential Geometry **Units: 3**
- MATH 193B - JR SEM PURE MATH **Units: 1**
- MATH 198 - Senior Project **Units: 3**
- MATH elective **Units: 3-4** (see note 1)

Additional Requirements (7 units)

- CSCI 40 - Introduction to Programming and Problem Solving **Units: 4**
- PHYS 4A - Mechanics and Wave Motion **Units: 3** (see note 2)

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units) - *see notes 2 and 3*
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. See advisor for details.

The **Culminating Experience** for the Pure Mathematics Option consists of the following:

- A Junior Seminar (MATH 193B) in Pure Mathematics in the spring semester of the year prior to graduation, and
- A Senior Project (MATH 198) in Pure Mathematics, which will include a report and a presentation in the Junior Seminar in the spring semester of student's graduating year.

Major Advising Notes

One 3-4 unit mathematics course, upper division or graduate, excluding MATH 100, MATH 102, MATH 133, MATH 134, MATH 137, MATH 138, and MATH 139. Special conditions apply for graduate courses; see department advisor.

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.

Three units of MATH 75 (or MATH 75A) also will satisfy the GE Foundation B4 requirement.

See Mathematics Road Map at

<http://www.fresnostate.edu/degereoadmap/>

Advising Requirements. It is strongly recommended, to all math majors, to have an advising session at least once a semester. See the department chair for assignment to an advisor.

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.

Mathematics - Statistics Option, B.S.

Bachelor of Science Degree Requirements

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 3 and MATH 5. It is strongly recommended that such study be completed before entrance to the university.

Major Requirements (51-56 units)

Core Curriculum (35 - 39 units)

- MATH 75 - Calculus I **Units: 4** (Area B4)
OR
- MATH 75A - Calculus with Review IA **Units: 4** (Area B4)
AND
- MATH 75B - Calculus with Review IB **Units: 4**

- MATH 76 - Calculus II **Units: 4**
- MATH 77 - Calculus III **Units: 4**
- MATH 81 - Elementary Differential Equations with Linear Algebra **Units: 3**
- MATH 101 - Statistical Methods **Units: 4**
- MATH 111 - Transition to Advanced Mathematics **Units: 4**
- MATH 151 - Principles of Algebra **Units: 4**
- MATH 152 - Linear Algebra **Units: 4**
- MATH 171 - Intermediate Mathematical Analysis I **Units: 4**

Option Specific Electives (16-17 units)

- MATH 106 - Applied Linear Statistical Models **Units: 3**
- MATH 107 - Mathematical Statistics **Units: 3**

Two Courses From the Following List (6 units):

- MATH 105 - Statistical Programming and Data Analysis **Units: 3**
- MATH 108 - Advanced Mathematical Statistics **Units: 3**
- MATH 109 - Applied Probability **Units: 3**

And The Following Two Courses:

- MATH 193C - RESEARCH SEM STATISTICS **Units: 1**
- MATH Elective **Units: 3-4** (see note 1)

Additional Requirements (7 units)

- CSCI 40 - Introduction to Programming and Problem Solving **Units: 4**
- PHYS 4A - Mechanics and Wave Motion **Units: 3** (see note 2)

Other Requirements (9 units)

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units) - *see notes 2 and 3*
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. See advisor for details.

The **Culminating Experience** for the Statistics Option is MATH 193C, Research Seminar in Statistics.

Advising Notes

One 3-4 unit mathematics course, upper division or graduate, excluding MATH 100, MATH 102, MATH 133, MATH 134, MATH 137, MATH 138, and MATH 139. Special conditions apply for graduate courses; see department advisor.

PHYS 4AL is not required for the math major. If students wish to include PHYS 4A as a GE Breadth course, they must also take PHYS 4AL.

Three units of MATH 75 (or MATH 75A) also will satisfy the GE Foundation B4 requirement.

See Mathematics Road Map at

<http://www.fresnostate.edu/degreeroadmap/>

Advising Requirements. It is strongly recommended, to all math majors, to have an advising session at least once a semester. See the department chair for assignment to an advisor.

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.

Mathematics - Teaching Option, B.S.

Bachelor of Science Degree Requirements

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 3 and MATH 5. It is strongly recommended that such study be completed before entrance to the university.

Major Requirements (53 - 58 units)

Core Curriculum (35-39 units)

- MATH 75 - Calculus I **Units: 4** (Area B4)

OR

- MATH 75A - Calculus with Review IA **Units: 4 (Area B4)**
AND
- MATH 75B - Calculus with Review IB **Units: 4**

- MATH 76 - Calculus II **Units: 4**
- MATH 77 - Calculus III **Units: 4**
- MATH 81 - Elementary Differential Equations with Linear Algebra **Units: 3**
- MATH 101 - Statistical Methods **Units: 3**
- MATH 111 - Transition to Advanced Mathematics **Units: 4**
- MATH 151 - Principles of Algebra **Units: 4**
- MATH 152 - Linear Algebra **Units: 4**
- MATH 171 - Intermediate Mathematical Analysis I **Units: 4**

Option Specific Electives (18-19 units)

- MATH 143 - History of Mathematics **Units: 4**
- MATH 145 - Problem Solving **Units: 3**
- MATH 149S - Capstone Mathematics for Teachers **Units: 4**
- MATH 161 - Principles of Geometry **Units: 3**
- MATH 193D - JR SEM MATH TEACH **Units: 3**
- MATH Elective/Any three seminars **Units: 3-4**
(see note 1)

Additional Requirements (7 units)

- CSCI 40 - Introduction to Programming and Problem Solving **Units: 4**
- PHYS 4A - Mechanics and Wave Motion **Units: 3** (see note 2)

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units) - *see notes 2 and 3*
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. See advisor for details.

The **Culminating Experience** for the Teaching Option is MATH 149S.

Advising Notes

The fifth MATH elective can be any 3-4 unit mathematics course, upper division or graduate, excluding MATH 100, MATH 102, MATH 133, MATH 134, MATH 137, MATH 138, MATH 139. Special conditions apply for graduate courses. Students pursuing credential or graduate programs should consult with a program advisor in the Department of Mathematics.

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.

Three units of MATH 75 (or MATH 75A) also will satisfy the G.E. Foundation B4 requirement.

See Mathematics Road Map at

<http://www.fresnostate.edu/degreeroadmap/>

Advising Requirements. It is strongly recommended, to all math majors, to have an advising session at least once a semester. See the department chair for assignment to an advisor.

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.

Mechanical Engineering, B.S.

Bachelor of Science Degree

Requirements

Major Requirements (66 units)

Major Core Requirements (53-54 units)

- ME 1 - Introduction to Mechanical Engineering **Units: 1**
- ME 2 - Computer Applications in Mech Engineering Lab **Units: 1**
- ME 26 - Engineering Graphics **Units: 3 (Area C1)**
- ME 31 - Engineering Materials **Units: 3**
- ME 32 - Engineering Materials Laboratory **Units: 1**
- ME 95 - Product Development **Units: 2 (Area C1)**
- ME 112 - Engineering Mechanics: Dynamics **Units: 3**
- ME 115 - Instrumentation and Measurement Lab **Units: 1**
- ME 116 - Fluid Mechanics **Units: 3**
- ME 118 - Fluid Mechanics Laboratory **Units: 1**

- ME 125 - Engineering Statistics and Experimentation **Units: 3**
- ME 135 - Senior Capstone Design I **Units: 3 (Area IC)**
- ME 134 - Kinematics of Machinery **Units: 3 (Area IB)**
- ME 136 - Thermodynamics **Units: 3**
- ME 140 - Advanced Engineering Analysis **Units: 3**
- ME 145 - Heat and Mass Transfer **Units: 3**
- ME 154 - Design of Machine Elements **Units: 3**
- ME 156 - Advanced Thermodynamics **Units: 3 (Area IC)**
- CE 20 - Engineering Mechanics: Statics **Units: 3**
- CE 121 - Mechanics of Materials **Units: 3**
- ECE 71 - Introduction to Computational Programming **Units: 3**

OR

- CSCI 40 - Introduction to Programming and Problem Solving **Units: 4**
- ECE 90 - Principles of Electrical Circuits **Units: 3**
- ECE 90L - Principles of Electrical Circuits Laboratory **Units: 1**

Design Applications (7 units)

- ME 155 - Senior Capstone Design II **Units: 3 (Area IC)**
- ME 159 - Mechanical Engineering Laboratory **Units: 1**
- ME 166 - Energy Systems Design **Units: 3**

Technical Area Courses (6 units)

Take a Minimum of 3 Units in Group A

- ME 122 - Dynamic Systems and Controls **Units: 3**
- ME 137 - Turbomachinery **Units: 3**
- ME 142 - Mechanical Vibration **Units: 3**
- ME 144 - Advanced Mechanics of Materials **Units: 3**
- ME 146 - Air Conditioning **Units: 3**
- ME 162 - Computer-Aided Design **Units: 3**
- ME 164 - Mechanical Systems Engineering Design **Units: 3**

A Maximum of 3 Units in Group B

May be substituted for a course in Group A with faculty advisor's approval.

- ME 180 - Special Projects **Units: 1-3**
- ME 190 - Independent Study **Units: 1-3**
- ME 191T - Topics in Mechanical Engineering **Units: 1-3**
- ECE 121 - Electromechanical Systems and Energy Conversion **Units: 3**
- ECE 121L - Electromechanical Systems and Energy Conversion Laboratory **Units: 1**

- ECE 155 - Control Systems **Units: 3**

Additional Requirements (21 units)

- CHEM 1A - General Chemistry 1A **Units: 3 (Area B1)**
- CHEM 1AL - General Chemistry Laboratory 1A **Units: 2 (Area B1)**
- MATH 75 - Calculus I **Units: 4 (Area B4)**
- MATH 76 - Calculus II **Units: 4**
- MATH 77 - Calculus III **Units: 4**
- MATH 81 - Elementary Differential Equations with Linear Algebra **Units: 3 (see Advising Note 7)**
- PHYS 4A - Mechanics and Wave Motion **Units: 3**
- PHYS 4AL - Laboratory in Mechanics and Wave Motion **Units: 1**
- PHYS 4B - Electricity, Magnetism, and Heat **Units: 3**
- PHYS 4C - Light and Modern Physics **Units: 3**
- PHIL 20 - Moral Questions **Units: 3 (Area C2)**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- *Engineering majors are exempt from GE areas A3, E, ID, and the third course in Area C*
- Multicultural and International (MI) - *Mechanical Engineering majors are exempt from the MI requirement*
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total: 123 Units*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. These courses include MATH 75 (Area B4), CHEM 1A and CHEM 1AL (Area B1), ME 26 and ME 95 (Area C1), PHIL 20 (Area C2), ME 134 (Area IB), ME 135, ME 155 and ME 156 (Area IC). See advisor for details.

Advising Notes

All LCOE students can enroll in ME 112 and ME 136 without permission numbers if they have fulfilled the prerequisite

requirements. For all other upper-division ME courses, non-ME majors must have permission numbers approved by the ME department chair.

Courses in mathematics, the physical sciences, or engineering taken CR/NC are not counted toward fulfillment of degree requirements in mechanical engineering.

Mechanical engineering majors might consider a math, physics, or business minor.

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.

Advising is mandatory in the Lyles College of Engineering. A registration hold will be placed on students who fail to see their advisor at least once per academic year.

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 taking ENGR 105WE or a department-approved writing course passed with a letter grade of C or better in the junior year.

With faculty advisor approval, ENGR 101 may be taken instead of MATH 81.

All courses in Math, Science, and Engineering used in the BSME curriculum must be passed with a C or better grade.

- MUSIC 4B - Piano Class II **Units: 2** (see note 2)
- MUSIC 4C - Piano Class III **Units: 2** (see note 2)

Music Core Requirements (23 units)

- MUSIC 58 - Basic Conducting **Units: 2**
- MUSIC 161A - Survey of Western Art Music I **Units: 3**
- MUSIC 161B - Survey of Western Art Music II **Units: 3**
- MUSIC 171A - Global Music Perspectives **Units: 3** and (Area MI)
- MUSIC 170B - Music of the Americas: United States **Units: 3**
- MUSIC 198 - Senior Recital or Project **Units: 1-2** (see note 13)
- Four semesters in MUSIC 31- MUSIC 39 appropriate to declared performing medium **Units: 4** (see note 9)
- Four semesters in MUSIC 103 Ensemble appropriate to declared performing medium **Units: 4** (see note 4)

Composition Option Requirements (44 units)

- MUSIC 47 - Introduction to Music Technology **Units: 2**
- MUSIC 49 - Instrumentation and Notation **Units: 3**
- MUSIC 141 - Seminar in Modal Counterpoint **Units: 3**
- MUSIC 142 - Seminar in Canon and Fugue **Units: 3**
- MUSIC 144 - Form and Analysis **Units: 3**
- MUSIC 183 - Advanced Choral Arranging **Units: 3**
- MUSIC 184A - Orchestration for Winds and Percussion **Units: 3** and
- MUSIC 184B - Orchestration for String and the Symphony Orchestra **Units: 3**
- MUSIC 48 - Seminar in Composition **Units: 2** (two semesters) and (see notes 8, 10, and 11)
- MUSIC 148 - Composition **Units: 1** (until completion of Senior Recital) (see notes 8, 10, and 11)
- MUSIC 102 **Units: 4** (four semesters)
OR
- MUSIC 117 **Units: 4** (four semesters)
OR
- MUSIC 117 **Units: 4** (four semesters)
- MUSIC 198 - Senior Recital or Project **Units: 1-2** (see note 13)
- Music Elective **Units: 1**
- ENTR 81E - Introduction to Entrepreneurship **Units: 3**

Music - Composition Option, B.M.

Bachelor of Music Degree Requirements

Admission into the Bachelor of Music - Composition Option is contingent upon the following:

- Complete all coursework in the Pre-Music Major
- Maintain a minimum GPA of 2.67
- Pass Composition Jury

Major Requirements (89 units)

Pre-Music Major Requirements (22 units)

- MUSIC 1A - Ear Training and Sight Singing I **Units: 1**
- MUSIC 1B - Ear Training and Sight Singing II **Units: 1**
- MUSIC 1C - Ear Training and Sight Singing III **Units: 1**
- MUSIC 1D - Ear Training and Sight Singing IV **Units: 1**
- MUSIC 40 - Theory and Literature I **Units: 3**
- MUSIC 41 - Theory and Literature II **Units: 3**
- MUSIC 42 - Theory and Literature III **Units: 3**
- MUSIC 43 - Theory and Literature IV **Units: 3**
- MUSIC 4A - Piano Class I **Units: 2** (see note 2)

Additional Requirements

- MUSIC 20 - Convocation **Units: 0** (8 semesters)
- MUSIC 30CF - Composition Forum **Units: 0** (8 semesters) (see note 14)
- MUSIC 30MC - Master Class **Units: 0** (4 semesters) (see note 6)
- MUSIC 30VW - Master Class **Units: 0** (4 semesters) (see note 6)

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units) - *Music Majors are exempt from GE Area C1, C3, and IC (see note 7)*
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Other Departmental and Composition Option Requirements must also be passed to complete the degree. See below for details.

Total: 132 Units*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. This includes MUSIC 171A (Area MI). See advisor for details.

Other Departmental Requirements

Students intending to pursue the B.M. degree must take a theory and ear training proficiency examination after completion of MUSIC 1D and MUSIC 43. Students not passing this exam will not be allowed to register for their recital (MUSIC 198).

Students majoring in music must enroll in a piano class (MUSIC 4A, MUSIC 4B, and MUSIC 4C) until the departmental piano proficiency examination has been passed. Piano music majors must enroll in MUSIC 14 and MUSIC 114 in lieu of MUSIC 4A, MUSIC 4B, MUSIC 4C and the piano proficiency examination. (See Department of Music Undergraduate Student Handbook for details.)

Students in **Music 31/MUSIC 31E/MUSIC 31J/MUSIC 31P - MUSIC 39/MUSIC 39E/MUSIC 39J/MUSIC 39P** will perform in student recitals as assigned by their instructor.

Students in **Music 31/MUSIC 31E/MUSIC 31J/MUSIC 31P - MUSIC 39/MUSIC 39E/MUSIC 39J/MUSIC 39P** are required to concurrently enroll in an appropriate ensemble. Brass, Percussion, and Wind students: MUSIC 103SB, MUSIC 103SO, or MUSIC 103WO; String students: MUSIC 103SO; Voice students: MUSIC 103CC; Jazz Students: MUSIC 103JO

Music students must earn a grade of C or better in each course used to satisfy the requirements of the major, including the Pre-Major. No course taken for the music major can be graded on a CR/NC basis except for courses with mandatory CR/NC grading.

Students in Music 31/MUSIC 31E/MUSIC 31J/MUSIC 31P - MUSIC 39/MUSIC 39E/MUSIC 39J/MUSIC 39P, and **MUSIC 131/MUSIC 131J - MUSIC 139/MUSIC 139J** are required to concurrently enroll in the appropriate master class (MUSIC 30MC /**MUSIC 30VW/MUSIC 30JF**) for their instrument/voice.

The University General Education requirement is 48 units. Students majoring in the Bachelors of Music or Bachelors of Music Education take 40 units of General Education, with 9 units waived. These 9 units are from Areas C1, C3, and IC. The requirements for these areas are covered in required coursework for the major.

Other Composition Option Requirements

Upon conclusion of the second semester of 48, freshman must attempt Composition Jury I before being permitted to continue their major. Transfer students typically attempt Composition Jury I in their first semester. Students are allowed two attempts, taken in consecutive semesters, to pass Composition Jury I.

Upon conclusion of the third semester of **Music 31-MUSIC 39**, sophomores will typically attempt the Performance Proficiency Exam in their declared primary concentration (instrument or voice). Students are allowed two attempts, taken in consecutive semesters, to pass the Performance Proficiency Exam.

Upon conclusion of the third semester of MUSIC 148, juniors will typically attempt Composition Jury II. The piano proficiency examination and passing MUSIC 1B are required before attempting Composition Jury II. Transfer students will typically attempt Composition Jury II in their third semester of study. Students are allowed two attempts, taken in consecutive semesters, to pass Composition Jury II. Failure to pass a second attempt will result in the student being dropped from Composition major. These students may continue the major in the Bachelor of Arts major.

Students who complete Composition Jury II will take two units of MUSIC 148 each semester until their recital semester.

Guitar and piano students will fulfill 50 percent of the major ensemble requirement by enrolling in Guitar Ensemble, Keyboard Ensemble, or other approved **Music 102**,

MUSIC 117, or **MUSIC 118** ensembles. The remaining 50 percent must be fulfilled by enrolling in either Symphony Orchestra, Wind Orchestra, Symphonic Band, Jazz Orchestra, or Concert Choir. 7.

Students will typically perform a Senior recital during their sixth semester of MUSIC 148.

Students in MUSIC 48 and MUSIC 148 are required to concurrently enroll in MUSIC 30CF.

Music - Instrumental Performance Option, B.M.

Bachelor of Music Degree Requirements

Admission into the Bachelor of Music - Instrumental Performance Option is contingent upon the following:

- Complete all coursework in the Pre-Music Major
- Maintain a minimum GPA of 2.67
- Pass Jury I on primary instrument

Major Requirements (81 units)

Pre-Music Major Requirements (22 units)

- MUSIC 1A - Ear Training and Sight Singing I **Units: 1**
- MUSIC 1B - Ear Training and Sight Singing II **Units: 1**
- MUSIC 1C - Ear Training and Sight Singing III **Units: 1**
- MUSIC 1D - Ear Training and Sight Singing IV **Units: 1**
- MUSIC 40 - Theory and Literature I **Units: 3**
- MUSIC 41 - Theory and Literature II **Units: 3**
- MUSIC 42 - Theory and Literature III **Units: 3**
- MUSIC 43 - Theory and Literature IV **Units: 3**
- MUSIC 4A - Piano Class I **Units: 2** (see note 2)
- MUSIC 4B - Piano Class II **Units: 2** (see note 2)
- MUSIC 4C - Piano Class III **Units: 2** (see note 2)

Music Core Requirements (23 units)

- MUSIC 58 - Basic Conducting **Units: 2**
- MUSIC 161A - Survey of Western Art Music I **Units: 3**
- MUSIC 161B - Survey of Western Art Music II **Units: 3**
- MUSIC 171A - Global Music Perspectives **Units: 3** and (Area MI)
- MUSIC 170B - Music of the Americas: United States **Units: 3**
- MUSIC 198 - Senior Recital or Project **Units: 1-2**

- Four semesters in MUSIC 31- MUSIC 39 appropriate to declared performing medium **Units: 4** (see note 8) (3, 4, 6, 8,)
- Four semesters in MUSIC 103 Ensemble appropriate to declared performing medium **Units: 4** (see note 4, 14)

Instrumental Performance Option Requirements (36 units)

- Four semesters in MUSIC 31P- MUSIC 38P appropriate to declared performing medium **Units: 4** (see note 3, 8,10, 12)
- MUSIC 47 - Introduction to Music Technology **Units: 2**
- MUSIC 144 - Form and Analysis **Units: 3**
- MUSIC 166 - Piano Pedagogy **Units: 2**
AND
- MUSIC 167 - Keyboard Literature **Units: 2**
OR
- MUSIC 175T - Topics in Instrumental Pedagogy **Units: 2**
AND
- MUSIC 176T - Instrument Repertoire and Literature **Units: 2**
OR
- MUSIC 175T - Topics in Instrumental Pedagogy **Units: 2** and
- MUSIC 111 - Advanced Guitar Technique **Units: 2**
OR
- MUSIC 112 - Advanced Flamenco Interpretation **Units: 2**
- MUSIC 131 **Units: 3** (until completion of Senior Recital) (see notes 3, 8, 10, 12, 14)
TO
- MUSIC 138 - Instrumental, Vocal, & Composition Lessons **Units: 1** (until completion of Senior Recital) (see notes 3, 8, 10, 12, 14)
- Four semesters in MUSIC 103 Ensemble appropriate to declared performing medium **Units: 4** (see notes 4, 14)
- MUSIC 102 Ensemble appropriate to declared performing medium (four semesters) **Units: 4**
OR
- MUSIC 117 Ensemble appropriate to declared performing medium (four semesters) **Units: 4**
OR
- MUSIC 118 Ensemble appropriate to declared performing medium (four semesters) **Units: 4**
- MUSIC 197 - Junior Recital **Units: 1** (see note 12)

- MUSIC 198 - Senior Recital or Project **Units:** 1-2 (see note 13) [sr recital for performance is 2 units]
- ENTR 81E - Introduction to Entrepreneurship **Units:** 3

Additional Requirements (0 units)

- MUSIC 20 - Convocation **Units:** 0 (8 semesters)
- MUSIC 30MC - Master Class **Units:** 0 appropriate to instrument (8 semesters) (see note 6)

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units) - *Music Majors are exempt from GE Area C1, C3, and IC (see note 7)*
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Other Departmental and Instrumental Performance Option Requirements must also be passed to complete the degree. See below for details.

Total: 124 Units*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. This includes MUSIC 171A (Area MI). See advisor for details.

Other Departmental Requirements

Students intending to pursue the B.M. degree must take a theory and ear training proficiency examination after completion of MUSIC 1D and MUSIC 43. Students must pass this exam before being allowed to register for the Senior Recital (MUSIC 198).

Students majoring in music must enroll in a piano class (MUSIC 4A, MUSIC 4B, and MUSIC 4C) until the departmental piano proficiency examination has been passed. Piano music majors must enroll in MUSIC 14 and MUSIC 114 in lieu of MUSIC 4A, MUSIC 4B, MUSIC 4C and the piano proficiency examination. (See Department of Music Undergraduate Student Handbook for details.)

Students in **Music 31/MUSIC 31E/MUSIC 31J/MUSIC 31P-MUSIC 39/MUSIC 39E/MUSIC 39J/MUSIC 39P** will perform in student recitals as assigned by their instructor.

Students in **Music 31/MUSIC 31E/MUSIC 31J/MUSIC 31P-MUSIC 39/MUSIC 39E/MUSIC 39J/MUSIC 39P** are required to concurrently enroll in an appropriate ensemble. Brass, Percussion, and Wind students: MUSIC 103SB, MUSIC 103SO, or MUSIC 103WO; String students: MUSIC 103JO; Voice students: MUSIC 103CC; Jazz Students: MUSIC 103JO

Music students must earn a grade of C or better in each course used to satisfy the requirements of the major, including the Pre-Major. No course taken for the music major can be graded on a CR/NC basis except for courses with mandatory CR/NC grading.

Students in **Music 31/MUSIC 31E/MUSIC 31J/MUSIC 31P-MUSIC 39/MUSIC 39E/MUSIC 39J/MUSIC 39P**, and **MUSIC 131/MUSIC 131J-MUSIC 139/MUSIC 139J** are required to concurrently enroll in the appropriate master class (Music 30MC/30VW/30JF) for their instrument/voice.

The university General Education requirement is 48 units. Students majoring in the Bachelors of Music or Bachelors of Music Education take 40 units of General Education, with 9 units waived. These 9 units are from Areas C1, C3, and IC. The requirements for these areas are covered in required coursework for the major.

Other Instrumental Performance Option Requirements

Upon conclusion of the second semester of MUSIC 31P - MUSIC 38P, freshmen must attempt Jury I in their primary instrument before being admitted to the Instrumental Performance major. Transfer students typically attempt Jury I in their first semester. Students are allowed two attempts, taken in consecutive semesters, to pass Jury I. Students must pass the piano proficiency examination, MUSIC 1B, and MUSIC 41 before attempting Jury II.

Upon conclusion of the fourth semester of MUSIC 31P - MUSIC 38P, sophomores will typically attempt Jury II. Transfer students will typically attempt Jury II in their second semester of study. 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 Instrumental Performance major but may continue as a Bachelor of Arts major.

Jury II must be passed before students are allowed to enroll in upper division lessons.

Beginning the first semester of **Music 131-MUSIC 138**, Instrumental Performance students will begin preparation of the Junior Recital (MUSIC 197). Failure to pass the Junior Recital will result in the student being dropped from the Instrumental Performance major but may continue as a Bachelor of Arts major.

Instrumental Performance students will typically perform a Senior recital at the end of their fourth semester of **Music 131 - MUSIC 138**.

Ensemble & Lesson requirement:- Students enrolled in **Music 131 - MUSIC 138** are required to concurrently enroll in an appropriate ensemble through the senior recital. Brass, Percussion, and Wind students: MUSIC 103SB, MUSIC 103SO, or MUSIC 103WO; String students: MUSIC 103SO.- Guitar, harp, and piano students will fulfill 50 percent of this requirement by enrolling in Guitar Ensemble, Keyboard Ensemble, or other approved *Music 102, MUSIC 117, or MUSIC 118* ensembles. The remaining 50 percent must be fulfilled by enrolling in either MUSIC 103SO, MUSIC 103WO, MUSIC 103SB, MUSIC 103JO, or MUSIC 103CC.

Music - Jazz Studies Option, B.M.

Bachelor of Music Degree Requirements

Admission into the Bachelor of Music - Jazz Studies degree is contingent upon the following:

- Complete all coursework in the Pre-Music Major
- Maintain a minimum GPA of 2.67
- Pass Jury I on primary instrument/voice

Major Requirements (89 units)

Pre-Music Major Requirements (22 units)

- MUSIC 1A - Ear Training and Sight Singing I **Units: 1**
- MUSIC 1B - Ear Training and Sight Singing II **Units: 1**
- MUSIC 1C - Ear Training and Sight Singing III **Units: 1**
- MUSIC 1D - Ear Training and Sight Singing IV **Units: 1**
- MUSIC 40 - Theory and Literature I **Units: 3**
- MUSIC 41 - Theory and Literature II **Units: 3**
- MUSIC 42 - Theory and Literature III **Units: 3**
- MUSIC 43 - Theory and Literature IV **Units: 3**
- MUSIC 4A - Piano Class I **Units: 2** (see note 2)
- MUSIC 4B - Piano Class II **Units: 2** (see note 2)
- MUSIC 4C - Piano Class III **Units: 2** (see note 2)

Music Core Requirements (23 units)

- MUSIC 58 - Basic Conducting **Units: 2**
- MUSIC 161A - Survey of Western Art Music I **Units: 3**
- MUSIC 161B - Survey of Western Art Music II **Units: 3**
- MUSIC 171A - Global Music Perspectives **Units: 3** and

- MUSIC 170B - Music of the Americas: United States **Units: 3**
- MUSIC 198 - Senior Recital or Project **Units: 1-2** (see note 14)
- Four semesters in MUSIC 31/MUSIC 31E/MUSIC 31J/MUSIC 31P - MUSIC 39/MUSIC 39E/MUSIC 39J/MUSIC 39P appropriate to declared performing medium **Units: 4** (see notes 3, 4, 6, 8, 10)
- Four semesters in MUSIC 103 Ensemble appropriate to declared performing medium **Units: 4** (see notes 4, 14)

Jazz Studies Option Requirements (44 units)

- MUSIC 31J - Brass **Units: 1** (see notes 3, 8, 10) **through**
- MUSIC 35J - Woodwinds **Units: 1** (see notes 3, 8, 10) **OR**
- MUSIC 39J - Voice **Units: 1** (see notes 3, 8, 10)
- MUSIC 47 - Introduction to Music Technology **Units: 2**
- MUSIC 64 - Jazz Theory and Improvisation I **Units: 3** **AND**
- MUSIC 65 - Jazz Theory and Improvisation II **Units: 3**
- MUSIC 162 - Jazz Pedagogy **Units: 2**
- MUSIC 163 - Jazz History **Units: 3**
- MUSIC 168 - Advanced Jazz Improvisation and Analysis **Units: 3**
- MUSIC 178 - Class Jazz Piano **Units: 1**
- MUSIC 181A - Jazz Composition **Units: 2** **AND**
- MUSIC 181B - Jazz Arranging **Units: 2**
- MUSIC 131J - Instrumental, Vocal, & Composition Lessons **Units: 1** **through**
- MUSIC 135J - Instrumental, Vocal, & Composition Lessons **Units: 1** **OR**
- MUSIC 139J - Vocal Jazz **Units: 1** (until completion of Senior Recital) (see note)
- Two semesters in MUSIC 103JO or MUSIC 102JE **Units: 2** (see note 4, 14)
- MUSIC 117JC - Jazz Combo **Units: 1**
- MUSIC 198 - Senior Recital or Project **Units: 1-2** (see note 14) [MUSIC 198 for jazz students is 2 units]
- ENTR 81E - Introduction to Entrepreneurship **Units: 3**

Additional Requirements (0 units)

- MUSIC 20 - Convocation Units: 0 (8 semesters)
- MUSIC 30JF - Jazz Forum Units: 0 (8 semesters) (see note 6)

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units) - *Music Majors are exempt from GE Area C1, C3, and IC (see note 7)*
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Other Departmental and Jazz Studies Option Requirements must also be passed to complete the degree. See below for details.

Total: 132 Units*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. This includes MUSIC 171A (Area MI). See advisor for details.

Other Departmental Requirements

Students intending to pursue the B.M. degree must take a theory and ear training proficiency examination after completion of MUSIC 1D and MUSIC 43. Students not passing this exam will not be allowed to register for their recital (MUSIC 198).

Students majoring in music must enroll in a piano class (MUSIC 4A, MUSIC 4B, and MUSIC 4C) until the departmental piano proficiency examination has been passed. Piano music majors must enroll in MUSIC 14 and MUSIC 114 in lieu of MUSIC 4A, MUSIC 4B, MUSIC 4C and the piano proficiency examination. (See Department of Music Undergraduate Student Handbook for details.)

Students in **MUSIC 31/MUSIC 31E/MUSIC 31J/MUSIC 31P - MUSIC 39/MUSIC 39E/MUSIC 39J/MUSIC 39P** will perform in student recitals as assigned by their instructor.

Students in **MUSIC 31/MUSIC 31E/MUSIC 31J/MUSIC 31P - MUSIC 39/MUSIC 39E/MUSIC 39J/MUSIC 39P** are required to concurrently enroll in an appropriate ensemble. Brass, Percussion, and Wind students: MUSIC 103SB, MUSIC 103SO, or MUSIC 103WO; String students:

MUSIC 103SO; Voice students: MUSIC 103CC; Jazz Students: MUSIC 103JO

Music students must earn a grade of C or better in each course used to satisfy the requirements of the major, including the Pre-Major. No course taken for the music major can be graded on a CR/NC basis except for courses with mandatory CR/NC grading.

Students in **MUSIC 31/MUSIC 31E/MUSIC 31J/MUSIC 31P - MUSIC 39/MUSIC 39E/MUSIC 39J/MUSIC 39P**, and **MUSIC 131/MUSIC 131J - MUSIC 139/MUSIC 139J** are required to concurrently enroll in the appropriate master class (MUSIC 30MC/**MUSIC 30VW/MUSIC 30JF**) for their instrument/voice.

The university General Education requirement is 48 units.

Students majoring in the Bachelors of Music or Bachelors of Music Education take 40 units of General Education, with 9 units waived. These 9 units are from Areas C1, C3, and IC. The requirements for these areas are covered in required coursework for the major.

Other Jazz Studies Option Requirements

Upon conclusion of the second semester of MUSIC 31J - MUSIC 39J, students must attempt Jury I. Transfer students typically attempt Jury I in their first semester. Students are allowed two attempts, taken in consecutive semesters, to pass Jury I. Failure to pass a second attempt will result in the student being declined enrollment into the Jazz Studies major.

Students must pass the piano proficiency examination, MUSIC 1B, and MUSIC 41 before attempting Jury II.

Jazz Studies students typically attempt Jury II upon conclusion of the fourth semester of MUSIC 31J - MUSIC 39J.

Transfer students will typically attempt Jury II in their second semester of study. 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 Jazz Studies major. These students may continue the major in the Bachelor of Arts, Music degree.

Jury II must be passed before students are allowed to enroll in upper division lessons.

Jazz Studies students typically attempt Jury III upon conclusion of the second semester of MUSIC 131J - MUSIC 139J.

Students must pass Jury III before being permitted enroll in the senior recital. Transfer students will typically attempt Jury III in their third semester of study. Students are allowed two attempts, taken in consecutive semesters, to pass Jury III. Failure to pass a second attempt of Jury III will result in the student being dropped from the Jazz Studies major. These students may continue the major in the Bachelor of Arts, Music degree.

Students will typically perform a Senior recital (MUSIC 198) at the end of their fourth semester of MUSIC 131J - MUSIC 139J.

Students enrolled in MUSIC 131J - MUSIC 139J are required to concurrently enroll in Music MUSIC 103JO through the

senior recital. Students may use MUSIC 102JE as a substitute for Music MUSIC 103JO per assignment of the Director of Jazz Studies.

Music - Music as a Liberal Art Option, B.A.

Bachelor of Arts Degree Requirements

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 (48 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 advisor each semester before they may enroll in music classes.

Please note: Entrance diagnostics 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.

Major Requirements (69 units)

Core (28 units)

- MUSIC 1A - Ear Training and Sight Singing I **Units:** 1
- MUSIC 1B - Ear Training and Sight Singing II **Units:** 1
- MUSIC 1C - Ear Training and Sight Singing III **Units:** 1
- MUSIC 1D - Ear Training and Sight Singing IV **Units:** 1
- MUSIC 40 - Theory and Literature I **Units:** 3
- MUSIC 41 - Theory and Literature II **Units:** 3
- MUSIC 42 - Theory and Literature III **Units:** 3
- MUSIC 43 - Theory and Literature IV **Units:** 3
- MUSIC 58 - Basic Conducting **Units:** 2
- MUSIC 161A - Survey of Western Art Music I **Units:** 3
- MUSIC 161B - Survey of Western Art Music II **Units:** 3
- MUSIC 4B - Piano Class II **Units:** 2 [Keyboard students: MUSIC 14 and MUSIC 114] (see note 1)
- MUSIC 4C - Piano Class III **Units:** 2 [Keyboard students: MUSIC 14 and MUSIC 114] (see note 1)
- MUSIC 20 - Convocation **Units:** 0 (8 semesters)

Degree Option - Music as a Liberal Art (41 units)

- Four semesters in MUSIC 103 appropriate to major emphasis (see note 2) **Units:** 4
- Four semesters in MUSIC 31/MUSIC 131 through MUSIC 39/MUSIC 139 **Units:** 4
- Other music electives (with advisor's approval) **Units:** 7
- Approved electives from outside the Music Department (consult advisor) **Units:** 9

Select from: (17 units)

- MUSIC 140T - Topics in Theory **Units:** 3
- MUSIC 141 - Seminar in Modal Counterpoint **Units:** 3
- MUSIC 142 - Seminar in Canon and Fugue **Units:** 3
- MUSIC 144 - Form and Analysis **Units:** 3
- MUSIC 147 - Digital Music Production **Units:** 3
- MUSIC 154 - Music for the Elementary Classroom **Units:** 3
- MUSIC 158A - Advanced Instrumental Conducting **Units:** 2
- MUSIC 158B - Advanced Choral Conducting **Units:** 2
- MUSIC 159 - Marching Band Techniques **Units:** 2
- MUSIC 160T - Topics in Music History and Literature **Units:** 1-3
- MUSIC 162 - Jazz Pedagogy **Units:** 2
- MUSIC 163 - Jazz History **Units:** 3
- MUSIC 164 - Jazz Theory & Improvisation I **Units:** 3
- MUSIC 165 - Jazz Theory Improvisation II **Units:** 3
- MUSIC 170A - Music of the Americas: Latin America **Units:** 3
- MUSIC 170B - Music of the Americas: United States **Units:** 3
- MUSIC 182 - Basic Arranging **Units:** 2
- MUSIC 183 - Advanced Choral Arranging **Units:** 3
- MUSIC 184 - Advanced Instrumental Arranging **Units:** 3
- MUSIC 186 - Arranging and Composing Using MIDI **Units:** 3
- MUSIC 187 - Pop Music: Jazz and Rock **Units:** 3
- MUSIC 191 - Readings in Music **Units:** 1-3
- MUSIC 198 - Senior Recital or Project **Units:** 1-2

Additional Requirements (9 units)

Music majors must take the following courses, which also satisfy 9 units of General Education requirements: BREADTH (Area C1) MUSIC 9A and MUSIC 74; INTEGRATION (Area IC) MUSIC 171

- MUSIC 9A - Introduction to Music **Units:** 3 (Area C1)
- MUSIC 74 - Listener's Guide to Music **Units:** 3 (Area C1)

- MUSIC 171 - Introduction to the World's Music **Units: 3**
(Area IC)

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total: 120 Units*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. These courses include MUSIC 9A and MUSIC 74 (Area C1), and MUSIC 171 (Area IC). See advisor for details.

Notes

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 MUSIC 4C may be waived by passing the designated Piano Proficiency Exam. Pianists must substitute MUSIC 14 and MUSIC 114 for MUSIC 4B and MUSIC 4C. Successful completion of MUSIC 14 and MUSIC 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.)

Advanced standing designation is granted after passing Jury II.

Other Departmental Requirements

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.

Music education and performance degree options require students to declare a primary concentration (e.g. an instrument or voice).

Upon conclusion of the second semester of **MUSIC 31**-MUSIC 39, MUSIC 48 or MUSIC 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.

Students majoring in music must enroll in a piano class (MUSIC 9A, MUSIC 4B, and MUSIC 4C) until the departmental piano proficiency examination has been passed. (See Department of Music Undergraduate Student Handbook for details.)

Passing of the piano proficiency examination and successful completion of MUSIC 1B are required before attempting Jury II.

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 Arts option.

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.

Music Education Option students must pass the conducting proficiency examination upon completion of MUSIC 158A OR MUSIC 158B (LIMIT TWO ATTEMPTS). Passing **MUSIC 158** does not constitute passing the proficiency examination.

Students in **MUSIC 31** and **MUSIC 131** through MUSIC 39 and MUSIC 139 (private studio instruction) will perform in student recitals when assigned by their instructor.

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.

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.M. (Pre-Certification)

Bachelor of Music Degree Requirements

Admission into the Bachelor of Music - Music Education Option (Pre-Certification) is contingent upon the following:

- Complete all coursework in the Pre-Music Major
- Maintain a minimum GPA of 2.67
- Pass Jury I on your primary instrument/voice

Major Requirements (89 units)

Pre-Music Major Requirements (22 units)

- MUSIC 1A - Ear Training and Sight Singing I **Units: 1**
- MUSIC 1B - Ear Training and Sight Singing II **Units: 1**
- MUSIC 1C - Ear Training and Sight Singing III **Units: 1**
- MUSIC 1D - Ear Training and Sight Singing IV **Units: 1**
- MUSIC 40 - Theory and Literature I **Units: 3**
- MUSIC 41 - Theory and Literature II **Units: 3**
- MUSIC 42 - Theory and Literature III **Units: 3**
- MUSIC 43 - Theory and Literature IV **Units: 3**
- MUSIC 4A - Piano Class I **Units: 2** (see note 2)
- MUSIC 4B - Piano Class II **Units: 2** (see note 2)
- MUSIC 4C - Piano Class III **Units: 2** (see note 2)

Music Core Requirements (23 units)

- MUSIC 58 - Basic Conducting **Units: 2**
- MUSIC 161A - Survey of Western Art Music I **Units: 3**
- MUSIC 161B - Survey of Western Art Music II **Units: 3**
- MUSIC 171A - Global Music Perspectives **Units: 3** and (Area MI)
- MUSIC 170B - Music of the Americas: United States **Units: 3**
- MUSIC 198 - Senior Recital or Project **Units: 1-2** (see note 15)
- Four semesters in MUSIC 31 - MUSIC 39 appropriate to declared performing medium **Units: 4** (see notes 3, 4, 6, 10, 12)
- Four semesters in MUSIC 103 Ensemble appropriate to declared performing medium **Units: 4** (see notes 4, 18)

Music Education Option Requirements (44 units)

- MUSIC 4D - Class Piano IV **Units: 2**
- MUSIC 50 - Introduction to Music Teaching and Learning **Units: 3**
- MUSIC 154 - Music for the Elementary Classroom **Units: 3**
- MUSIC 155 - Advanced Elementary Classroom Techniques **Units: 3**
- MUSIC 162 - Jazz Pedagogy **Units: 2**
- MUSIC 169 - Instrumental Techniques and Materials **Units: 2**
- MUSIC 169L - Instrumental Lab Ensemble **Units: 1**
- MUSIC 179 - Choral Techniques and Materials **Units: 2**
- MUSIC 179L - Choral Techniques Lab **Units: 1**
- MUSIC 182 - Basic Arranging **Units: 2**
- MUSIC 158A - Advanced Instrumental Conducting **Units: 2** (see note 17)

OR

- MUSIC 158B - Advanced Choral Conducting **Units: 2** (see note 17)
- Four semesters in MUSIC 103 Ensemble appropriate to the option **Units: 4** (see notes 4 and 18)
- MUSIC 131 - MUSIC 139 (until completion of Senior Recital) **Units: 7** (see notes 14, 18)

Choose One Line (10 units):

Choral Students:

- MUSIC 122A - String Techniques and Materials **Units: 2**
- MUSIC 124A - Woodwind Techniques and Materials **Units: 2**
- MUSIC 126 - Percussion Techniques and Materials **Units: 2**
- MUSIC 127A - Brass Techniques and Materials **Units: 2**
- MUSIC 185A - Lyric Diction I **Units: 2**

Instrumental Students:

- MUSIC 102CS - Chamber Singers **Units: 1**
 - MUSIC 102US - University Singers **Units: 1**
- OR**
- MUSIC 103CC - Concert Choir **Units: 1**
 - MUSIC 119 - Voice Techniques and Materials **Units: 1**

Choose Four From

- MUSIC 115 - Advance Guitar for the Classroom Teacher **Units: 2**

- MUSIC 122A - String Techniques and Materials **Units: 2**
- MUSIC 124A - Woodwind Techniques and Materials **Units: 2**
- MUSIC 126 - Percussion Techniques and Materials **Units: 2**
- MUSIC 127A - Brass Techniques and Materials **Units: 2**
- MUSIC 159 - Marching Band Techniques **Units: 2** (see note 16)

Additional Requirements (0 units)

- MUSIC 20 - Convocation **Units: 0** (4 semesters) (see note 6)
- MUSIC 30MC - Master Class **Units: 0** (appropriate to instrument or voice) (8 semesters) (see note 6)
OR
- MUSIC 30VW **Units: 0** (appropriate to instrument or voice) (8 semesters) (see note 6)

Other Requirements (9 units)

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units) - *Music Majors are exempt from GE Area C1, C3, and IC (see note 7)*
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Other Departmental and Music Education Option Requirements must also be passed to complete the degree. See below for details.

Total: 132 Units*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. This includes MUSIC 171A (Area MI). See advisor for details.

Other Departmental Requirements

Students intending to pursue the B.M. degree must take a theory and ear training proficiency examination after completion of MUSIC 1D and MUSIC 43. Students not passing this

exam will not be allowed to register for their recital (MUSIC 198).

Students majoring in music must enroll in a piano class (MUSIC 4A, MUSIC 4B, and MUSIC 4C) until the departmental piano proficiency examination has been passed. Piano music majors must enroll in MUSIC 14 and MUSIC 114 in lieu of MUSIC 4A, MUSIC 4B, MUSIC 4C and the piano proficiency examination. (See Department of Music Undergraduate Student Handbook for details.)

Students in **Music 31/MUSIC 31E/MUSIC 31J/MUSIC 31P - MUSIC 39/MUSIC 39E/MUSIC 39J/MUSIC 39P** will perform in student recitals as assigned by their instructor.

Students in **Music 31/MUSIC 31E/MUSIC 31J/MUSIC 31P - MUSIC 39/MUSIC 39E/MUSIC 39J/MUSIC 39P** are required to concurrently enroll in an appropriate ensemble. Brass, Percussion, and Wind students: MUSIC 103SB, MUSIC 103SO, or MUSIC 103WO; String students: MUSIC 103SO; Voice students: MUSIC 103CC; Jazz Students: MUSIC 103JO

Music students must earn a grade of C or better in each course used to satisfy the requirements of the major, including the Pre-Major. No course taken for the music major can be graded on a CR/NC basis except for courses with mandatory CR/NC grading.

Students in **Music 31/MUSIC 31E/MUSIC 31J/MUSIC 31P - MUSIC 39/MUSIC 39E/MUSIC 39J/MUSIC 39P**, and **MUSIC 131/MUSIC 131J - MUSIC 139/MUSIC 139J** are required to concurrently enroll in the appropriate master class (MUSIC 30MC /**MUSIC 30VW/MUSIC 30JF**) for their instrument/voice and MUSIC 20 - Convocation.

The university General Education requirement is 48 units. Students majoring in the Bachelors of Music take 40 units of General Education, with 9 units waived. These 9 units are from Areas C1, C3, and IC. The requirements for these areas are covered in required coursework for the major.

Other Bachelor of Music Education Option Requirements

Students intending to pursue the Music Education Option must also take the Music Education Barrier exam after completion of MUSIC 1D, MUSIC 4D and MUSIC 43. Students not passing this exam by graduation will not achieve Subject Matter Proficiency, and will have to take and pass the CSET in Music before entering a Teaching Credential Program. Students will be granted three attempts at taking these examinations.

Once admitted into the Music Education option. major, students must maintain a minimum cumulative 2.75 GPA

Upon conclusion of the second semester of MUSIC 31E - **MUSIC 39E**, freshmen must attempt Jury I in their primary instrument or voice before being admitted to the Music Education Option. major. Transfer students typically attempt Jury I in their first semester. Students are allowed two attempts, taken in consecutive semesters, to pass Jury I. Students must pass the piano proficiency examination, MUSIC 1B, and MUSIC 41 before attempting Jury II.

Upon conclusion of the fourth semester of MUSIC 31E - **MUSIC 39E**, sophomores will typically attempt Jury II. Transfer students will typically attempt Jury II in their second semester of study. 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 B.M. major but may continue as a Bachelor of Arts major.

Jury II must be passed before students are allowed to enroll in upper division lessons.

Upon conclusion of the second semester of **Music 131** - MUSIC 139, Music Education students will attempt and pass Jury III before being permitted enroll in the senior recital. Transfer students will typically attempt Jury III in their third semester of study. Students are allowed two attempts, taken in consecutive semesters, to pass Jury III. Failure to pass a second attempt of Jury III will result in the student being dropped from the B.M. major. These students may continue in the Bachelor of Arts major.

Students will typically perform a Senior recital at the end of their fourth semester of **Music 131** - MUSIC 139.

Music Education Option majors with an instrumental concentration must take all techniques courses (MUSIC 115, MUSIC 122A, MUSIC 124A, MUSIC 126, MUSIC 127A, and MUSIC 159) that are outside of their instrument area.

Students must pass the conducting proficiency examination upon completion of MUSIC 158A or MUSIC 158B (Limit two attempts).

Ensemble & Lesson requirement:

Students enrolled in **Music 131** - MUSIC 139 are required to concurrently enroll in an appropriate ensemble through the senior recital. Brass, Percussion, and Wind students: MUSIC 103SB, MUSIC 103SO, or MUSIC 103WO; String students: MUSIC 103SO; Voice students: MUSIC 103CC

Guitar, harp, and piano students will fulfill 50 percent of this requirement by enrolling in Guitar Ensemble, Keyboard Ensemble, or other approved **Music 102**, **MUSIC 117**, or **MUSIC 118** ensembles. The remaining 50 percent must be fulfilled by enrolling in either MUSIC 103SO, MUSIC 103WO, MUSIC 103SB, MUSIC 103JO, or MUSIC 103CC.

- Maintain a minimum GPA of 2.67
- Pass Jury I in voice area

Major Requirements (84 units)

Pre-Music Major Requirements (22 units)

- MUSIC 1A - Ear Training and Sight Singing I **Units: 1**
- MUSIC 1B - Ear Training and Sight Singing II **Units: 1**
- MUSIC 1C - Ear Training and Sight Singing III **Units: 1**
- MUSIC 1D - Ear Training and Sight Singing IV **Units: 1**
- MUSIC 40 - Theory and Literature I **Units: 3**
- MUSIC 41 - Theory and Literature II **Units: 3**
- MUSIC 42 - Theory and Literature III **Units: 3**
- MUSIC 43 - Theory and Literature IV **Units: 3**
- MUSIC 4A - Piano Class I **Units: 2** (see note 2)
- MUSIC 4B - Piano Class II **Units: 2** (see note 2)
- MUSIC 4C - Piano Class III **Units: 2** (see note 2)

Music Core Requirements (23 units)

- MUSIC 58 - Basic Conducting **Units: 2**
- MUSIC 161A - Survey of Western Art Music I **Units: 3**
- MUSIC 161B - Survey of Western Art Music II **Units: 3**
- MUSIC 171A - Global Music Perspectives **Units: 3** (Area MI)
- MUSIC 170B - Music of the Americas: United States **Units: 3**
- MUSIC 198 - Senior Recital or Project **Units: 1-2** (see note 15)
- Four semesters in MUSIC 31 - MUSIC 39 appropriate to declared performing medium (see notes 3, 4, 6, 8, 10, 12) **Units: 4**
- Four semesters in MUSIC 103 Ensemble appropriate to declared performing medium (see note 4, 8, 9) **Units: 4**

Vocal Performance Option Requirements (39 units)

- Four semesters in MUSIC 39P appropriate to declared performing medium (see note 3, 4, 6, 8, 10, 12) **Units: 4**
- MUSIC 47 - Introduction to Music Technology **Units: 2**
- MUSIC 113 - Vocal Pedagogy **Units: 2**
- MUSIC 118OT - Opera Theatre **Units: 1**
- MUSIC 118OPR - Opera Production **Units: 1**
- MUSIC 144 - Form and Analysis **Units: 3**
- MUSIC 172 - Vocal Literature **Units: 2**

Music - Vocal Performance Option, B.M.

Bachelor of Music Degree Requirements

Admission into the Bachelor of Music Vocal Performance degree is contingent upon the following:

- Complete all coursework in the Pre-Music Major

- MUSIC 185A - Lyric Diction I **Units: 2**
- MUSIC 185B - Lyric Diction II **Units: 2**
- MUSIC 185C - Lyric Diction III **Units: 2**
- MUSIC 185D - Lyric Diction IV **Units: 2**
- MUSIC 139 - Instrumental, Vocal, & Composition Lessons **Units: 1** (6 units - until completion of Senior Recital) (see notes 3, 8, 10, 12, 14,15)
- Four semesters in MUSIC 103 Concert Choir (see note 8, 9) **Units: 4**
- MUSIC 197 - Junior Recital **Units: 1**
- MUSIC 198 - Senior Recital or Project **Units: 1-2** (see note 15) [sr recital for vocal performance is 2 units]
Music Elective (1)
- ENTR 81E - Introduction to Entrepreneurship **Units: 3**

Additional Requirements (11 units)

- MUSIC 20 - Convocation **Units: 0** (8 semesters)
- MUSIC 30MC - Master Class **Units: 0** (8 semesters) (see note 6)
- Foreign Language **Units: 4**
- DANCE 70 - Balance BodyMind **Units: 3**
- Additional Foreign Language **Units: 4**

Other Degree Requirements

University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units) -
Music Majors are exempt from GE Area C1, C3, and IC (see note 7)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Other Departmental and Vocal Performance Option Requirements must also be passed to complete the degree. See below for details.

Total: 132 Units*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. These courses include a Foreign Language Course (Area C2), DANCE 70 (Area E), and MUSIC 171A (Area MI). See advisor for details.

Other Departmental Requirements

Students intending to pursue the B.M. degrees must take a theory and ear training proficiency examination after completion of MUSIC 1D and MUSIC 43. Students not passing this exam will not be allowed to register for their recital (MUSIC 198).

Students majoring in music must enroll in a piano class (MUSIC 4A, MUSIC 4B, and MUSIC 4C) until the departmental piano proficiency examination has been passed. Piano music majors must enroll in MUSIC 14 and MUSIC 114 in lieu of MUSIC 4A, MUSIC 4B, MUSIC 4C and the piano proficiency examination. (See Department of Music Undergraduate Student Handbook for details.)

Students in **Music 31/MUSIC 31E/MUSIC 31J/MUSIC 31P - MUSIC 39/MUSIC 39E/MUSIC 39J/MUSIC 39P** will perform in student recitals as assigned by their instructor.

Students in **Music 31/MUSIC 31E/MUSIC 31J/MUSIC 31P - MUSIC 39/MUSIC 39E/MUSIC 39J/MUSIC 39P** are required to concurrently enroll in an appropriate ensemble. Brass, Percussion, and Wind students: MUSIC 103SB, MUSIC 103SO, or MUSIC 103WO; String students: MUSIC 103SO; Voice students: MUSIC 103CC; Jazz Students: MUSIC 103JO

Music students must earn a grade of C or better in each course used to satisfy the requirements of the major, including the Pre-Major. No course taken for the music major can be graded on a CR/NC basis except for courses with mandatory CR/NC grading.

Students in **Music 31/MUSIC 31E/MUSIC 31J/MUSIC 31P - MUSIC 39/MUSIC 39E/MUSIC 39J/MUSIC 39P**, and **MUSIC 131/MUSIC 131J - MUSIC 139/MUSIC 139J** are required to concurrently enroll in the appropriate master class (MUSIC 30MC/MUSIC 30JF) for their instrument/voice.

The university General Education requirement is 48 units. Students majoring in the Bachelors of Music or Bachelors of Music Education take 40 units of General Education, with 9 units waived. These 9 units are from Areas C1, C3, and IC. The requirements for these areas are covered in required coursework for the major.

Other Vocal Performance Degree Requirement

Students enrolled in MUSIC 39P and MUSIC 139 are required to concurrently enroll in MUSIC 103CC through the senior recital.

Vocal Performance majors may substitute up to 2 units of MUSIC 102CS for the MUSIC 103CC requirements, with permission of the Director of Choral Activities.

Upon conclusion of the second semester of MUSIC 39P, students must attempt Jury I. Transfer students typically attempt Jury I in their first semester. Students are allowed two attempts, taken in consecutive semesters, to pass Jury I.

Failure to pass a second attempt will result in the student being declined enrollment into the Vocal Performance major.

Students must pass the piano proficiency examination, MUSIC 1B, and MUSIC 41 before attempting Jury II.

Upon conclusion of the fourth semester of MUSIC 39P, sophomores will typically attempt Jury II. Transfer students will typically attempt Jury II in their second semester of study. 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 BM in Vocal Performance major but may continue as a Bachelor of Arts major.

Jury II must be passed before students are allowed to enroll in upper division lessons.

Beginning the first semester of MUSIC 139, Vocal Performance students will begin preparation of the Junior Recital (MUSIC 197). Failure to pass the Junior Recital will result in the student being dropped from the Vocal Performance major but may continue as a Bachelor of Arts major.

Students will typically perform a Senior recital at the end of their fourth semester of MUSIC 139.

Natural Sciences - Biology Option, B.A.

Bachelor of Arts Degree Requirements

The B.A. in Natural Sciences Biology Option serves to establish subject matter competency through coursework as approved by the California Commission on Teacher Credentialing (CTC), which waives the California Subject Exam for Teachers (CSET), and streamlines the process for students to enter the Single Subject Teaching Credential program in Science. This degree program is primarily designed for students who plan to become middle or high school science teachers; however, the program is also suitable for students who have interest in other science career options. Please contact CSM Advising and Resources Center (ARC) at 559.278.4150 for advising and more information.

Major Requirements (69-71 units)

Core Requirements (36 units)

Biology

- BIOL 1A - Introductory Biology **Units: 4** (Area B2)
- BIOL 1B - Introductory Biology **Units: 3**
- BIOL 1BL - Introductory Biology Laboratory **Units: 1**

Chemistry

- CHEM 1A - General Chemistry 1A **Units: 3** (Area B1)
- CHEM 1AL - General Chemistry Laboratory 1A **Units: 2** (Area B1)
- CHEM 1B - General Chemistry 1B **Units: 3**
- CHEM 1BL - General Chemistry Laboratory 1B **Units: 2**

Geology

- EES 1 - Natural Disasters and Earth Resources **Units: 4** and
- EES 168 - California's Earth System **Units: 3** (Area IB)

Math

- MATH 75 - Calculus I **Units: 4** (Area B4)

Natural Science

- NSCI 106 - Reigning Theories of Science **Units: 3**

Physical Science

- PSCI 21 - Elementary Astronomy **Units: 4**

Biology Option (33-35 units)

- CHEM 8 - Elementary Organic Chemistry **Units: 3**
- CHEM 150 - General Biochemistry **Units: 3**
- PHYS 2A - General Physics **Units: 4**
- MATH 101 - Statistical Methods **Units: 4**
OR
- PSYCH 42 - Introductory to Statistics and Data Analysis **Units: 4**
- BIOL 101 - General Ecology **Units: 3**
- BIOL 102 - Genetics **Units: 3**
- BIOL 103 - Cellular Biology **Units: 3**
- BIOL 105 - Evolution **Units: 3**
- BIOL 101L - General Ecology Lab **Units: 1**
OR
- BIOL 104 - Genetics and Cell Biology Lab **Units: 1**

Select One Course:

- BIOL 120 - Microbiology **Units: 3**
- BIOL 122 - Nonvascular Plants **Units: 3**
- BIOL 124 - Vascular Plants **Units: 4**
- BIOL 125 - Plant Taxonomy **Units: 4**

- BIOL 130 - Invertebrate Zoology **Units: 4**
- BIOL 131 - Parasitology **Units: 4**
- BIOL 132 - General Entomology **Units: 3**
- BIOL 133 - Natural History of Vertebrates **Units: 4**
- BIOL 134 - Ichthyology **Units: 3**
- BIOL 135 - Biology of Reptiles and Birds **Units: 4**
- BIOL 136 - Mammalogy **Units: 3**
- BIOL 171 - Terrestrial Ecology **Units: 4**
- BIOL 172 - Aquatic Ecology **Units: 4**

Select One Course:

- BIOL 160 - Microbial Physiology **Units: 4**
- BIOL 161 - Plant Physiology **Units: 4**
- BIOL 162 - Comparative Animal Physiology **Units: 3 and**
- BIOL 162L - Comparative Animal Physiology Lab **Units: 1**
- BIOL 163 - Advanced Human Physiology **Units: 3**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total: 120 Units*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements (*see note 1*). See advisor for details.

Advising Notes for Biology Option in Natural Sciences

This total assumes that students in this option will maximize 12 units required for the major that also may be applied to fulfill General Education requirements as follows: CHEM 1A/CHEM 1AL (Area B1), BIOL 1A (Area B2), EES 168 (Area IB), and MATH 75 (Area B4). Consult your major advisor for details.

In compliance with Federal Requirements for Posting Licensure and Certification Eligibility, please see the CSU Chancellor's Office calstate.edu website.

Natural Sciences - Chemistry Option, B.A.

Bachelor of Arts Degree Requirements

The B.A. in Natural Sciences Chemistry Option serves to establish subject matter competency through coursework as approved by the California Commission on Teacher Credentialing (CTC), which waives the California Subject Exam for Teachers (CSET), and streamlines the process for students to enter the Single Subject Teaching Credential program in Science. This degree program is primarily designed for students who plan to become middle or high school science teachers; however, the program is also suitable for students who have interest in other science career options. Please contact CSM Advising and Resources Center (ARC) at 559.278.4150 for advising and more information.

Major Requirements (67-68 units)

Core Requirements (36 units)

Biology

- BIOL 1A - Introductory Biology **Units: 4 (Area B2)**
- BIOL 1B - Introductory Biology **Units: 3**
- BIOL 1BL - Introductory Biology Laboratory **Units: 1**

Chemistry

- CHEM 1A - General Chemistry 1A **Units: 3 (Area B1)**
- CHEM 1AL - General Chemistry Laboratory 1A **Units: 2 (Area B1)**
- CHEM 1B - General Chemistry 1B **Units: 3**
- CHEM 1BL - General Chemistry Laboratory 1B **Units: 2**

Geology

- EES 1 - Natural Disasters and Earth Resources **Units: 4**
- EES 168 - California's Earth System **Units: 3 (Area IB)**

Math

- MATH 75 - Calculus I **Units: 4 (Area B4)**

Natural Science

- NSCI 106 - Reigning Theories of Science **Units: 3**

Physical Science

- PSCI 21 - Elementary Astronomy **Units: 4**

Chemistry Option (31-32 units)

- PHYS 2A - General Physics **Units: 4** (see note 1)
- PHYS 2B - General Physics **Units: 4** (see note 1)
- MATH 76 - Calculus II **Units: 4**
- CHEM 128A - Organic Chemistry **Units: 3**
- CHEM 102 - Quantitative Analytical Chemistry **Units: 5**
OR
- CHEM 105 - Quantitative Analysis Laboratory **Units: 4**
- CHEM 108 - Introductory Physical Chemistry **Units: 4**
- CHEM 128B - Organic Chemistry **Units: 3**
- CHEM 129A - Organic Chemistry Laboratory **Units: 2**
- CHEM 150 - General Biochemistry **Units: 3**
OR
- CHEM 155A - Fundamentals of Biochemistry **Units: 3** (see advising note 2)

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total: 120 Units*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements (see note 3). See advisor for details.

Advising Notes for Chemistry Option in Natural Sciences

Substitutions may be made with the permission of the appropriate department chair. PHYS 4A-PHYS 4B-PHYS 4C with labs PHYS 4AL, PHYS 4BL is recommended instead of PHYS 2A-PHYS 2B for those students well-prepared for physics.

If a student selects CHEM 150, it is important to note CHEM 128B is a pre-requisite. Students should take CHEM 128B before enrolling in CHEM 150.

This total assumes that students in this option will maximize 12 units required for the major that also may be applied to fulfill General Education requirements as follows: CHEM 1A/CHEM 1AL (Area B1), BIOL 1A (Area B2), EES 168 (Area IB), and MATH 75 (Area B4). Consult your major advisor for details.

In compliance with Federal Requirements for Posting Licensure and Certification Eligibility, please see the CSU Chancellor's Office calstate.edu website.

Natural Sciences - Earth Science Option, B.A.

Bachelor of Arts Degree Requirements

The B.A. in Natural Sciences Earth Science Option serves to establish subject matter competency through coursework as approved by the California Commission on Teacher Credentialing (CTC), which waives the California Subject Exam for Teachers (CSET), and streamlines the process for students to enter the Single Subject Teaching Credential program in Science. This degree program is primarily designed for students who plan to become middle or high school science teachers; however, the program is also suitable for students who have interest in other science career options. Please contact CSM Advising and Resources Center (ARC) at 559.278.4150 for advising and more information., and other areas for which the breadth of scientific coverage of this degree is advantageous.

Major Requirements (70 units)

Core Requirements (36 units)

Biology

- BIOL 1A - Introductory Biology **Units: 4** (Area B2)
- BIOL 1B - Introductory Biology **Units: 3**
- BIOL 1BL - Introductory Biology Laboratory **Units: 1**

Chemistry

- CHEM 1A - General Chemistry 1A **Units: 3 (Area B1)**
- CHEM 1AL - General Chemistry Laboratory 1A **Units: 2 (Area B1)**
- CHEM 1B - General Chemistry 1B **Units: 3**
- CHEM 1BL - General Chemistry Laboratory 1B **Units: 2**

Geology

- EES 1 - Natural Disasters and Earth Resources **Units: 4**
- EES 168 - California's Earth System **Units: 3 (Area IB)**

Math

- MATH 75 - Calculus I **Units: 4 (Area B4)**

Natural Science

- NSCI 106 - Reigning Theories of Science **Units: 3**

Physical Science

- PSCI 21 - Elementary Astronomy **Units: 4**

Earth Science Option (34 units)

- BIOL 101 - General Ecology **Units: 3**
- BIOL 101L - General Ecology Lab **Units: 1**
- PHYS 2A - General Physics **Units: 4**
- MATH 101 - Statistical Methods **Units: 4**
OR
- PSYCH 42 - Introductory to Statistics and Data Analysis **Units: 4**
- EES 3 - Geology Field Trip **Units: 1**
- EES 12 - Mineralogy **Units: 3**
- EES 30 - Introductory Field Methods **Units: 2**
- EES 100 - Analytical Methods in the Earth Sciences **Units: 2**
- EES 101 - Igneous and Metamorphic Petrology **Units: 4**
- EES 102S - Sedimentology **Units: 4**
- EES 105 - Geomorphology **Units: 3**
- EES 112 - Planet Earth through Time **Units: 3**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)

- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total: 120 Units*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements (see note 1). See advisor for details.

Advising Notes for Earth Science Option in Natural Sciences

This total assumes that students in this option will maximize 12 units required for the major that also may be applied to fulfill General Education requirements as follows: CHEM 1A/CHEM 1AL (Area B1), BIOL 1A (Area B2), EES 168 (Area IB), and MATH 75 (Area B4). Consult your major advisor for details.

In compliance with Federal Requirements for Posting Licensure and Certification Eligibility, please see the CSU Chancellor's Office calstate.edu website.

Natural Sciences - Physics Option, B.A.

Bachelor of Arts Degree Requirements

The B.A. in Natural Sciences Physics Option serves to establish subject matter competency through coursework as approved by the California Commission on Teacher Credentialing (CTC), which waives the California Subject Exam for Teachers (CSET), and streamlines the process for students to enter the Single Subject Teaching Credential program in Science. This degree program is primarily designed for students who plan to become middle or high school science teachers; however, the program is also suitable for students who have interest in other science career options. Please contact CSM Advising and Resources Center (ARC) at 559.278.4150 for advising and more information.

Major Requirements (70 units)

Core Requirements (36 units)

Biology

- BIOL 1A - Introductory Biology **Units: 4** (Area B2)
- BIOL 1B - Introductory Biology **Units: 3**
- BIOL 1BL - Introductory Biology Laboratory **Units: 1**

Chemistry

- CHEM 1A - General Chemistry 1A **Units: 3** (Area B1)
- CHEM 1AL - General Chemistry Laboratory 1A **Units: 2** (Area B1)
- CHEM 1B - General Chemistry 1B **Units: 3**
- CHEM 1BL - General Chemistry Laboratory 1B **Units: 2**

Geology

- EES 1 - Natural Disasters and Earth Resources **Units: 4**
- EES 168 - California's Earth System **Units: 3** (Area IB)

Math

- MATH 75 - Calculus I **Units: 4** (Area B4)

Natural Science

- NSCI 106 - Reigning Theories of Science **Units: 3**

Physical Science

- PSCI 21 - Elementary Astronomy **Units: 4**

Physics Option (34 units)

- MATH 76 - Calculus II **Units: 4**
- MATH 77 - Calculus III **Units: 4**
- MATH 81 - Elementary Differential Equations with Linear Algebra **Units: 3**
- PHYS 4A - Mechanics and Wave Motion **Units: 3**
- PHYS 4AL - Laboratory in Mechanics and Wave Motion **Units: 1**
- PHYS 4B - Electricity, Magnetism, and Heat **Units: 3**
- PHYS 4BL - Laboratory in Electricity, Magnetism, and Heat **Units: 1**
- PHYS 4C - Light and Modern Physics **Units: 3**
- PHYS 102 - Modern Physics **Units: 3**
- PHYS 105A - Analytical Mechanics **Units: 3**
- PHYS 107A - Intermediate Electricity and Magnetism **Units: 3**
- PHYS 168S - Physics Outreach **Units: 3**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total: 120 Units*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements (see note 1). See advisor for details.

Advising Notes for Physics Option in Natural Sciences

This total assumes that students in this option will maximize 12 units required for the major that also may be applied to fulfill General Education requirements as follows: CHEM 1A/CHEM 1AL (Area B1), BIOL 1A (Area B2), EES 168 (Area IB), and MATH 75 (Area B4). Consult your major advisor for details.

In compliance with Federal Requirements for Posting Licensure and Certification Eligibility, please see the CSU Chancellor's Office calstate.edu website.

Nursing - R.N.-B.S.N.

Bachelor of Science in Nursing Degree Program, RN-BSN (Post-licensure) Degree Requirements

Major Requirements (21 units)

- NURS 135 - Professional Transition **Units: 3**
- NURS 136 - Health Appraisal **Units: 3**
- NURS 141 - Concepts of Community Health Nursing **Units: 3**

- NURS 141LS - Practicum: Concepts of Community Health Nursing **Units: 2**
- NURS 145 - Nursing Theories and Research **Units: 3**
- NURS 151 - Senior Project **Units: 1**
- NURS 152 - Advanced Leadership, Management and Healthcare Systems **Units: 3**
- NURS 156 - Nursing Informatics **Units: 3**

NCLEX Credit (20 units)

Prerequisite requirements (28 units)

(See prerequisites listed under Admission to the RN-BSN Program.
(19 units may be applied to G.E.)

Additional Course Requirements (12 units)

- PHIL 20 - Moral Questions **Units: 3 (C2)**
OR
- PHIL 120 - Contemporary Conflicts of Morals **Units: 3 (IC)**
- SOC 3 - Critical Thinking About Society **Units: 3 (A3) ***
- PSYCH 10 - Introduction to Psychology **Units: 3 (D3)**
- MATH 11 - Elementary Statistics **Units: 3 (B4)**
OR
- PH 92 - Public Health Statistics **Units: 3 (B4)**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units) - *see Admission to the RN-BSN Program below*
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total: 120 Units**

*If SOC 3 is not taken, then SOC 1 or ANTH 2 can be completed.

**General Education, MI, and Upper-division Writing courses can be double counted with major requirements. These courses include SOC

3 (Area A3), MATH 11 or PH 91 (Area B4), PHIL 20 (Area C2) or PHIL 120 (Area IC), and PSYCH 10 (Area D3). See advisor for details.

- 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).

Admission to the RN-BSN Program

Program applicants must meet the following minimum criteria:

Graduate from a BRN approved, regionally accredited ADN program. Must be in good standing at last university attended.

Possess a current, active, and clear California RN license by the end of the first semester of the program.

Admission is contingent upon completion of eight prerequisite courses (see below) with a minimum prerequisite GPA of 2.0 or higher and a cumulative GPA of 2.75 or higher.

Complete eight prerequisite courses (see below) with a minimum grade of C. CR/NC grades are not acceptable (excluding Advanced Placement and International Baccalaureate).

Admission to California State University, Fresno either before or during the term RN-BSN application is accepted.

Submission of a completed RN-BSN application with official transcripts.

Policies and Procedures for Direct Transfer into the Nursing Major:

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).

Students must submit all transcripts, course descriptions of nursing courses, and two letters of recommendation from their current school to be considered for transfer.

Students must meet all California State University, Fresno criteria for admission and continuation in the major to be eligible for transfer.

Students are admitted and placed in the major at the discretion of the chair of nursing.

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.

Applicant Deadline: Fall Admission - February 1-28 and Spring Admission - July 1-31

Prerequisite Courses:

- G.E. Area A1 COMM 3 - Fundamentals of Public Communication **Units: 3**
- G.E. Area A1 COMM 7 - Persuasion **Units: 3**
OR
- G.E. Area A1 COMM 8 - Group Discussion **Units: 3**
- G.E. Area A2 ENGL 5B - Academic Literacy II **Units: 3**
OR
- G.E. Area A2 ENGL 10 - Accelerated Academic Literacy **Units: 3**
- G.E. Area A3* SOC 3 - Critical Thinking About Society **Units: 3** * preferred
- G.E. Area B4* MATH 11 - Elementary Statistics **Units: 3** preferred
OR
- G.E. Area B4* PH 92 - Public Health Statistics **Units: 3** preferred
- CHEM 3A - Introductory General Chemistry **Units: 4**
- BIOL 20 - Introductory Microbiology **Units: 4**
- BIOL 67A - Human Anatomy & Physiology I **Units: 4**
- BIOL 67B - Human Anatomy and Physiology II **Units: 4**

Total: 28 Units

* See G.E. list for approved courses.

Leave of Absence from Nursing Program

Request for university leave of absence:

Students must also request a leave of absence (LOA) in writing from the chair of nursing. Students who do not request LOA will not be readmitted into the major.

Leaves will be granted only for students who have completed at least one semester in the program and are in good standing.

Request to return from leave of absence:

Students must request in writing to be reinstated in the program specifying:

Date of LOA

Reason for LOA

Disposition of circumstances requiring the LOA

Students will be notified in writing of requirements for returning to program, denial, or reinstatement.

Requirement for return will include the following, based on the discretion of the chair of nursing:

Letters of recommendation from individuals such as counselors or physicians

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.

In compliance with Federal Requirements for Posting Licensure and Certification Eligibility, please see the CSU Chancellor's Office calstate.edu website.

Nursing, B.S.N.

Bachelor of Science Degree Requirements

Major Requirements (59 units)

- NURS 10 - Fundamental Concepts of Nursing Care **Units: 3**
- NURS 10AL - Practicum: Fundamental Concepts of Clinical Nursing **Units: 2-3**
- NURS 110 - Transitional Concepts in Nursing Care **Units: 3**
- NURS 110AL - Practicum: Medical-Surgical Nursing **Units: 2-3**
- NURS 112 - Pathophysiology for Nurses **Units: 3**
- NURS 114 - Fundamental Skills and Assessments of Nursing Care **Units: 3**
- NURS 121 - Psychosocial Nursing **Units: 3**
- NURS 121L - Practicum: Psychosocial Nursing **Units: 2**
- NURS 124 - Pharmacology in Nursing **Units: 2**
- NURS 131 - Nursing of the Childrearing Family **Units: 3**
- NURS 131L - Practicum: Nursing of the Childrearing Family **Units: 2**
- NURS 132 - Nursing the Childbearing Family **Units: 3**
- NURS 132L - Practicum: Nursing the Childbearing Family **Units: 2**
- NURS 140A - Complex Concepts of Nursing Care **Units: 3**
- NURS 140AL - Practicum: Advanced Medical-Surgical Nursing **Units: 2-3**

- NURS 141 - Concepts of Community Health Nursing **Units:** 3
- NURS 141LS - Practicum: Concepts of Community Health Nursing **Units:** 2
- NURS 142 - Assessment of Common Cardiac Dysrhythmias **Units:** 1
- NURS 145 - Nursing Theories and Research **Units:** 3
- NURS 150 - Leadership and Health Care Economics **Units:** 3
- NURS 150L - Leadership and Clinical Management **Units:** 2-3
- NURS 151 - Senior Project **Units:** 1
- NURS 155A - Patient Safety and Professional Nursing Practice **Units:** 1-2
- NURS 158 - Concepts of Older Adult Nursing **Units:** 1
- NURS 158L - Practicum: Concepts of Older Adult Nursing **Units:** 1

Additional Course Requirements (12 units)

- CFS 38 - Life Span Development **Units:** 3 (Area E)
- PHIL 20 - Moral Questions **Units:** 3 (Area C2)
OR
- PHIL 120 - Contemporary Conflicts of Morals **Units:** 3 (Area IC)
- PSYCH 10 - Introduction to Psychology **Units:** 3 (Area D2)
- NUTR 53 - Nutrition and Health: Realities and Controversies **Units:** 3 (Area E)

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units) - *see Policies and Procedures for B.S.N. Admission below*
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total: 120 Units*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. These courses include CFS 38 (Area E), PHIL 20 (Area C2) or PHIL 120 (Area IC), PSYCH 10 (Area D2), and NUTR 53 (Area E). ANTH 116W is recommended to meet both the Upper-division Writing and Area ID requirement. If students choose a different writing course, they need to take a separate course to meet Area ID requirements. See advisor for details.

Advising Notes

Please see <https://chhs.fresnostate.edu/nursing/> for specific G.E. classes and recommended elective classes designated for nursing.

PSYCH 10 and SOC 3 must be completed no later than the first semester of the nursing major.

Major courses must be taken for a letter grade; CR/NC grading is not permitted in the nursing major.

Students are strongly encouraged to seek academic advising every semester.

All practicum courses (with suffix "AL" or "L") require a minimum of three hours of clinical work per unit of credit as a minimum to meet course objectives.

In compliance with Federal Requirements for Posting Licensure and Certification Eligibility, please see the CSU Chancellor's Office calstate.edu website.

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 the preceding fall semester and for spring entry all prerequisites must be completed by the preceding spring semester. Applicants must meet all criteria for admission to the university and to the nursing major.

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 require criminal background checks and drug screening for clinical placement and course enrollment.

Eligibility to Apply to the Program

Students must have an overall and prerequisite 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

once, but this must be done prior to their application. For TEAS information, see www.atitest.com.

The following eight prerequisite courses must be completed prior to entry into the nursing program.

- COMM 3 - Fundamentals of Public Communication **Units: 3**
OR
- COMM 7 - Persuasion **Units: 3**
OR
- COMM 8 - Group Discussion **Units: 3**

- ENGL 5B - Academic Literacy II **Units: 3**
OR
- ENGL 10 - Accelerated Academic Literacy **Units: 3**

- SOC 3 - Critical Thinking About Society **Units: 3** *
preferred

- MATH 11 - Elementary Statistics **Units: 3** * preferred
OR
- PH 92 - Public Health Statistics **Units: 3** * preferred

- CHEM 3A - Introductory General Chemistry **Units: 4**
- BIOL 20 - Introductory Microbiology **Units: 4**
- BIOL 67A - Human Anatomy & Physiology I **Units: 4**
- BIOL 67B - Human Anatomy and Physiology II **Units: 4**

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. (Excluding AP and IB credit)
- A GPA of 3.0 is required in the eight prerequisite courses .
- 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. Applicants must reapply each time and compete with the entire applicant pool if not selected.

Students will be ranked by grade point average in the prerequisites courses (prerequisites GPA).

Preference will be given to U.S. military veterans who meet minimum requirements for admissions and who submit a DD214 showing an honorable discharge status prior to submission of application. 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 February 1-28; university applications are available October 1. Spring admission: School of Nursing applications are available July 1-31; university applications are available August 1. Dates are subject to change. Additional information and applications can be obtained online at <https://chhs.fresnostate.edu/nursing/> or by calling nursing admissions at 559.278.5027.

The two program applications (both university and nursing) include additional instructions.

Note: Students who have been admitted to the major, have made no arrangements with the school, failed to attend the nursing orientation, and fail to attend the first day of class will be dropped administratively from the major and not considered for future admission.

International course credit and admission eligibility

No prerequisite courses taken at an international institution are accepted to fulfill the Nursing Admissions prerequisites. Equivalent prerequisite courses and nursing additional requirements must be taken and/or repeated at domestic institutions in the United States.

Leave of Absence from Nursing Program

Request for university leave of absence:

Students must also request a leave of absence (LOA) in writing from the chair of nursing. Students who do not request LOA will not be readmitted into the major.

Leaves will be granted only for students who have completed at least one semester in the program and are in good standing.

Request to return from leave of absence:

Students must request in writing to be reinstated in the program specifying:

Date of LOA

Reason for LOA

Disposition of circumstances requiring the LOA

Students will be notified in writing of requirements for returning to program, denial, or reinstatement.

Requirement for return will include the following, based on the discretion of the chair of nursing:

Letters of recommendation from individuals such as counselors or physicians

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.

In compliance with Federal Requirements for Posting Licensure and Certification Eligibility, please see the CSU Chancellor's Office calstate.edu website.

Nursing, R.N.-B.S.N. - Continuing & Global Education

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 career advancement
- apply for public health nurse certification
- prepare for admission to a school nurse, clinical nurse specialist or nurse practitioner programs

The Bachelor of Science in Nursing RN-to-BSN program is offered by the School of Nursing faculty in cooperation with the Division of Undergraduate Studies and the Division of Continuing and Global Education. Some courses are 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.

Note: Program is pending final approval from the Chancellor's Office.

Requirements

Major Requirements (21 units)

- NURS 135 - Professional Transition **Units: 3**
- NURS 136 - Health Appraisal **Units: 3**
- NURS 141 - Concepts of Community Health Nursing **Units: 3**
- NURS 141LS - Practicum: Concepts of Community Health Nursing **Units: 2**
- NURS 145 - Nursing Theories and Research **Units: 3**
- NURS 151 - Senior Project **Units: 1**
- NURS 152 - Advanced Leadership, Management and Healthcare Systems **Units: 3**
- NURS 156 - Nursing Informatics **Units: 3**

NCLEX Credit (20 units)

Prerequisite Requirements (28 units)

See prerequisites listed under Admission to the RN-BSN Program. (19 units may be applied to G.E.)

Additional Course Requirements (12 units)

- PHIL 20 - Moral Questions **Units: 3 (C2)**
OR
- PHIL 120 - Contemporary Conflicts of Morals **Units: 3 (IC)**
- SOC 3 - Critical Thinking About Society **Units: 3 (A3) ***
- PSYCH 10 - Introduction to Psychology **Units: 3 (D3)**
- MATH 11 - Elementary Statistics **Units: 3 (B4)**
OR
- PH 92 - Public Health Statistics **Units: 3 (B4)**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units) - *see Admission to the RN-BSN Program*

- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total: 120 Units**

*If SOC 3 is not taken, then SOC 1 or ANTH 2 can be completed.

**General Education, MI, and Upper-division Writing courses can be double counted with major requirements. These courses include SOC 3 (Area A3), MATH 11 or PH 91 (Area B4), PHIL 20 (Area C2) or PHIL 120 (Area IC), and PSYCH 10 (Area D3). See advisor for details.

- 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).

Philosophy - Pre-Law Option, B.A.

Bachelor of Arts Degree

Requirements

Students must select from the Philosophy Major, the Pre-Law Option, or the Religious Studies Option.

Philosophy Major Requirements (33 units)

Core (18 units)

Lower-Division:

- PHIL 25 - Methods of Reasoning **Units: 3** (Area A3)

Upper-Division:

- PHIL 101 - Ancient Philosophy **Units: 3**
- PHIL 115 - Ethical Theory **Units: 3**
- PHIL 126 - Social Justice **Units: 3**
- PHIL 131 - Comparative Religion **Units: 3**
- PHIL 170T - Senior Seminar **Units: 1-4**

Prelaw Option (15 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 education. (See Preprofessional Preparation). Students with a strong interest in philosophy as well as law may find this option valuable. Depending 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.

Required Courses:

- PHIL 127 - Philosophy of Law **Units: 3**
- PHIL 199I - Fieldwork in Philosophy and Law **Units: 3**

Choose One Course (3 units) From:

- PHIL 118 - Social and Political Theory **Units: 3**
- PHIL 121 - Ethics in Criminal Justice **Units: 3**
- PHIL 122 - Introduction to Professional Ethics **Units: 3**
- PHIL 125W - Issues in Political Philosophy **Units: 3**
- PHIL 157 - Freedom, Fate, and Choice **Units: 3**

Choose One Approved Upper-Division Philosophy Elective (3 units)

Choose One Course (3 units) From:

- AFRS 146 - Law and the Minority Community **Units: 3**
- ANTH 119 - Law and Culture **Units: 3**
- BA 18 - Business and the Legal Environment **Units: 4**
- COMM 105 - Argumentation Theory **Units: 3**
- COMM 149 - Freedom of Speech **Units: 3**
- COMM 163 - Social Influence and Attitude Change **Units: 3**
- CRIM 20 - Criminal Law **Units: 3**
- PLSI 110 - Seminar in History of Political Thought to Machiavelli **Units: 3**
- PLSI 111 - Seminar in History of Political Thought Since Machiavelli **Units: 3**
- PLSI 170 - Constitutional Law, the Federal Structure **Units: 3**

- PLSI 171 - Constitutional Law, Civil Liberties, and Civil Rights **Units: 3**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. This includes PHIL 25 (Area A3). See advisor for details.

Advising Notes

CR/NC grading is not permitted in courses used to fulfill the philosophy major requirements.

Students intending to pursue graduate study in philosophy, law, or religious studies should seek a faculty advisor's help in planning adequate preparation.

Visit the Philosophy Department office or your faculty advisor for the list of approved T classes for the major.

Philosophy - Religious Studies Option, B.A.

Bachelor of Arts Degree Requirements

Students must select from the Philosophy Major, the Pre-Law Option, or the Religious Studies Option.

Philosophy Major Requirements (33-35 units)

Core (18 units)

Lower-Division:

- PHIL 25 - Methods of Reasoning **Units: 3** (Area A3)

Upper-Division:

- PHIL 101 - Ancient Philosophy **Units: 3**
- PHIL 115 - Ethical Theory **Units: 3**
- PHIL 126 - Social Justice **Units: 3**
- PHIL 131 - Comparative Religion **Units: 3**
- PHIL 170T - Senior Seminar **Units: 1-4** (for 3 units)

Religious Studies Option Requirements (15-17 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.

Choose One Course (3 units) From:

- PHIL 135 - Asian Religious Traditions **Units: 3**
- PHIL 136 - Buddhism **Units: 3**
- PHIL 137 - Hinduism **Units: 3**
- PHIL 138 - Chinese Thought **Units: 3**

Choose One Course (3 units) From:

- PHIL 139 - Islam **Units: 3**
- PHIL 158 - Judaism **Units: 3**

Choose One Course (3-4 units) From:

- PHIL 133W - Literature of the New Testament **Units: 3**
- PHIL 134 - Literature of the Old Testament **Units: 4**

Choose Two Courses (6-7 units) From:

- PHIL 130 - Philosophy of Religion **Units: 3**
- PHIL 132 - Religion and the Margin **Units: 3**
- PHIL 133W - Literature of the New Testament **Units: 3**
- PHIL 134 - Literature of the Old Testament **Units: 4**
- PHIL 135 - Asian Religious Traditions **Units: 3**
- PHIL 136 - Buddhism **Units: 3**
- PHIL 137 - Hinduism **Units: 3**
- PHIL 138 - Chinese Thought **Units: 3**

- PHIL 139 - Islam **Units: 3**
- PHIL 158 - Judaism **Units: 3**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. This includes PHIL 25 (Area A3). See advisor for details.

Advising Notes

CR/NC grading is not permitted in courses used to fulfill the philosophy major requirements.

Students intending to pursue graduate study in philosophy, law, or religious studies should seek a faculty advisor's help in planning adequate preparation.

Visit the Philosophy Department office or your faculty advisor for the list of approved T classes for the major.

Philosophy, B.A.

Bachelor of Arts Degree Requirements

Students must select from the Philosophy Major, the Pre-Law Option, or the Religious Studies Option.

Philosophy Major Requirements (33-34 units)

Core (18 units)

Lower-Division:

- PHIL 25 - Methods of Reasoning **Units: 3 (Area A3)**

Upper-Division:

- PHIL 101 - Ancient Philosophy **Units: 3**
- PHIL 115 - Ethical Theory **Units: 3**
- PHIL 126 - Social Justice **Units: 3**
- PHIL 131 - Comparative Religion **Units: 3**
- PHIL 170T - Senior Seminar **Units: 1-4**

Philosophy Major (15-16 units)

Choose One Course (3 units) From:

- PHIL 103 - Modern Philosophy: 17th and 18th Centuries **Units: 3**
- PHIL 104 - Nineteenth Century Philosophy **Units: 3**
- PHIL 105 - Twentieth Century Philosophy **Units: 3**

Choose One Course (3 units) From:

- PHIL 140 - Advanced Reasoning Skills **Units: 3**
- PHIL 146 - Philosophy of Language **Units: 3**
- PHIL 150 - Foundations of Knowledge **Units: 3**
- PHIL 151 - Cognitive Science: Mind **Units: 3**
- PHIL 152 - Philosophy of Science **Units: 3**
- PHIL 155 - Metaphysics **Units: 3**
- PHIL 156 - Moral Psychology **Units: 3**
- PHIL 157 - Freedom, Fate, and Choice **Units: 3**

Choose One Course (3-4 units) From:

- PHIL 130 - Philosophy of Religion **Units: 3**
- PHIL 132 - Religion and the Margin **Units: 3**
- PHIL 133W - Literature of the New Testament **Units: 3**
- PHIL 134 - Literature of the Old Testament **Units: 4**
- PHIL 135 - Asian Religious Traditions **Units: 3**
- PHIL 136 - Buddhism **Units: 3**
- PHIL 137 - Hinduism **Units: 3**
- PHIL 138 - Chinese Thought **Units: 3**
- PHIL 139 - Islam **Units: 3**
- PHIL 158 - Judaism **Units: 3**

Choose Two Approved Upper-Division Philosophy Electives (6 units)

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. This includes PHIL 25 (Area A3). See advisor for details.

Advising Notes

CR/NC grading is not permitted in courses used to fulfill the philosophy major requirements.

Students intending to pursue graduate study in philosophy, law, or religious studies should seek a faculty advisor's help in planning adequate preparation.

Visit the Philosophy Department office or your faculty advisor for the list of approved T classes for the major.

Physical Education, B.S.

Bachelor of Science Degree Requirements

The Bachelor of Science in Physical Education has a curricular emphasis in pedagogy designed for students with professional goals in teaching and coaching. Completion of this degree provides access to teaching credential programs and teaching careers in grades K-12.

The Bachelor of Science in Physical Education offers coursework and practical experiences in teaching and coaching, which conform to all California state standards and fully prepare students for admission into teaching credential programs. After completing the degree, students can pursue a single subject teaching credential. Graduates are highly effective and successful physical educators in K-12 schools throughout the Central Valley and beyond.

Major Requirements (47 units)

- KINES 1 - Introductory Principles and Techniques for Physical Fitness Development **Units: 3**

- KINES 31 - Historical and Professional Foundations of Physical Education **Units: 3**
- KINES 32 - Lifetime Fitness and Wellness **Units: 2** (see advising note 6)
- KINES 33 - Foundation of Sport Exercise Psychology **Units: 3**
- KINES 35 - Human Structure and Function: Applications to Kinesiology **Units: 3**
OR
- BIOL 33 - Introductory Human Anatomy and Physiology **Units: 5**
- KINES 110 - Motor Development **Units: 3**
- KINES 116 - Fundamentals of Biomechanics **Units: 3**
- KINES 118 - Fundamentals of Exercise Physiology **Units: 3**
- KINES 120 - Planning Strategies for Physical Education **Units: 3**
- KINES 122 - Nontraditional Games and Outdoor Education **Units: 3**
- KINES 123 - Analysis and Application: Rhythmic Movement in Physical Education **Units: 3**
- KINES 126 - Analysis and Application: Aquatics **Units: 3**
- KINES 131 - Analysis and Application: Individual, Team and Fitness Activity **Units: 3**
- KINES 144I - Field Experience in Teaching **Units: 3**
- KINES 159 - Measurement and Evaluation **Units: 3**

Select one from Area A

- KAC 40 - Elementary Karate **Units: 1**
- KAC 41 - Judo **Units: 1**
- KAC 43 - Taekwondo **Units: 1**
- KAC 44 - Kendo **Units: 1**
- KAC 47 - Tai Chi **Units: 1**
- KAC 49 - Kickboxing **Units: 1**
- KAC 50 - Assault Avoidance Techniques **Units: 1**
- KAC 51 - Self-defense **Units: 1**

Select one from Area B

- KAC 10 - Hip Hop Dance **Units: 1**
- KAC 12 - Elementary Social Dance **Units: 1**
- KAC 13 - Swing Dance **Units: 1**
- DANCE 115 - University Dance Theatre **Units: 1**
- DANCE 117A - Modern Dance Technique **Units: 1**
- DANCE 155A - Modern Jazz Dance **Units: 1**
- DANCE 158A - Ballet Technique **Units: 1**
- CLAS 107 - Latino Dance **Units: 2**

Select one from Area C

- KAC 4 - Swimming for Beginners **Units: 1**
- KAC 6 - Water Aerobics **Units: 1**
- KAC 103 - Swim for Fitness **Units: 1**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the **Baccalaureate Degree Requirements**.

Total Units: 120*

* General Education, MI, and Upper-division Writing courses can be double counted with major requirements. See advisor for details.

Advising Notes

Students enrolled in the PETE must confer with their Physical Education advisor during every semester they are enrolled in the program.

KAC 31 (Elementary Gymnastics) is strongly recommended. Students majoring in Physical Education 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 Physical Education major is not allowed in any of these activity courses.

Students in the PETE must maintain a grade point average of 3.0 (GPA) in all physical education courses. 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 advisor.

Students must also maintain a GPA of 3.0 or higher throughout their credential coursework (Kremen School of Education requirement).

KINES 32 will double count for both Core and General Education Area E. PETE majors are required to take KAC 103 as the activity component with KINES 32. Students are strongly encouraged to take KAC 4 if they are not already proficient in all swim strokes.

Students are required to maintain current certification for Adult/Child CPR and First Aid.

In compliance with Federal Requirements for Posting Licensure and Certification Eligibility, please see the CSU Chancellor's Office calstate.edu website.

Physics, B.S.

Bachelor of Science Degree

Requirements

Physics Major Requirements (52 units)

Physics Core (45 units)

- PHYS 4A - Mechanics and Wave Motion **Units: 3**
- PHYS 4AL - Laboratory in Mechanics and Wave Motion **Units: 1**
- PHYS 4B - Electricity, Magnetism, and Heat **Units: 3**
- PHYS 4BL - Laboratory in Electricity, Magnetism, and Heat **Units: 1**
- PHYS 4C - Light and Modern Physics **Units: 3**
- PHYS 102 - Modern Physics **Units: 3**
- PHYS 104 - Experimental Techniques in Condensed Matter Physics **Units: 4**
- PHYS 105A - Analytical Mechanics **Units: 3**
- PHYS 105B - Analytical Mechanics **Units: 3**
- PHYS 106 - Introduction to Computer Simulations in Physics **Units: 3**
- PHYS 107A - Intermediate Electricity and Magnetism **Units: 3**
- PHYS 107B - Intermediate Electricity and Magnetism **Units: 3**
- PHYS 110 - Physical Optics **Units: 3**
- PHYS 115 - Quantum Mechanics **Units: 3**
- PHYS 140 - Thermodynamics and Kinetic Theory **Units: 3**
- PHYS 170A - Mathematical Physics **Units: 3**

Upper-Division Electives (7 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 (see advising note 2):

- PHYS 135 - Introduction to Magnetic Resonance Imaging and Spectroscopy **Units: 3**
- PHYS 136 - Radiation Physics **Units: 3**
- PHYS 137 - Radiation Measurements Laboratory **Units: 3**
- PHYS 150 - Astrophysics **Units: 3**

- PHYS 151 - Observational Astronomy **Units: 4**
- PHYS 155 - Seminar in Biomedical Physics/Neurosciences **Units: 1**
- PHYS 156 - Diagnostic X-Ray Imaging Physics **Units: 3**
- PHYS 157 - Nuclear Medicine Physics **Units: 3**
- PHYS 158 - Radiation Oncology Physics **Units: 3**
- PHYS 162 - Condensed Matter Physics **Units: 3**
- PHYS 163 - Introduction to Particle Physics and ATLAS Experiment of LHC at CERN **Units: 4**
- PHYS 168S - Physics Outreach **Units: 3**
- PHYS 171 - Analytical Methods **Units: 2**
- PHYS 180 - Seminar in Physics **Units: 1**

Additional Requirements (20 units)

- CHEM 1A - General Chemistry 1A **Units: 3 (Area B1)**
- CHEM 1AL - General Chemistry Laboratory 1A **Units: 2 (Area B1)**
- MATH 75 - Calculus I **Units: 4 (Area B4)**
- MATH 76 - Calculus II **Units: 4**
- MATH 77 - Calculus III **Units: 4**
- MATH 81 - Elementary Differential Equations with Linear Algebra **Units: 3**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI) - *Physics majors are exempt from the MI requirement*
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. These courses include CHEM 1A & CHEM 1AL (Area B1), and MATH 75 (Area B4). Area See advisor for details.

Advising Notes

CR/NC grading is not permitted in the physics major. Additional requirements, however, may be taken CR/NC (see Credit/No Credit Grading).

PHYS 190 and PHYS 175T as well as courses outside the Department of Physics may be substituted for physics upper-division electives with prior approval of the department chair.

All math and physics prerequisites for the physics major should be completed with a grade of C or better.

Plant Science, B.S.

Bachelor of Science Degree Requirements

This Bachelor of Science degree is designed to provide graduates with an academic background deeply rooted in field-based experiences in the broad array of disciplines within the Plant Sciences.

Major Requirements (62 units)

Core Courses (38 units)

- PLANT 71 - Agricultural Water **Units: 3**
- PLANT 99 - Introduction to Biometrics **Units: 3**
- PLANT 100 - Aspects of Crop Productivity **Units: 3**
- PLANT 101 - Crop Nutrition **Units: 3**
- PLANT 107 - Plant Propagation **Units: 3**
- OR
- PLANT 108 - Micropropagation **Units: 3**
- PLANT 150 - Crop Improvement **Units: 3**
- PLANT 160 - Weed Science **Units: 3**
- PLANT 161 - Plant Pathology **Units: 3**
- PLANT 162 - Economic Entomology **Units: 3**
- PLANT 163 - Integrated Pest Management **Units: 3**
- PLANT 172 - Soils **Units: 3**
- PLANT 172L - Soils Lab **Units: 1**

Select Three (3) Units from MEAG

Select One (1) Unit From

In consultation with a faculty adviser.

- PLANT 180 - Undergraduate Research **Units: 1-4**
- PLANT 190 - Independent Study **Units: 1-3**
- PLANT 194I - Agricultural Internship **Units: 1-8**
- PLANT 196 - Crop Projects **Units: 1**

Electives (24 units)

Select twenty-four (24) units of electives that best meet your career objectives. **A maximum of nine (9) units may be lower division**, including any department-approved transfer courses. Note: Electives cannot double count in the required core.

Lower-Division

- MEAG 3 - Agricultural Tractors **Units: 3**
- MEAG 20 - Agricultural Machinery and Equipment **Units: 3**
- MEAG 50 - Metallurgical Processes **Units: 3**
- PLANT 1 - Introduction to Plant Science **Units: 3**
- PLANT 20 - Introduction to Crop Science **Units: 3**
- PLANT 30 - Introduction to Fruit Science **Units: 3**
- PLANT 40 - Introduction to Ornamental Horticulture **Units: 3**
- PLANT 41 - Floral Design **Units: 3**
- PLANT 60 - Introduction to Plant Health **Units: 3**

Upper-Division

- MEAG 103 - Electro-Hydraulics **Units: 3**
- MEAG 112 - Power Systems Technology **Units: 3**
- MEAG 113 - Power Transmissions **Units: 3**
- MEAG 114 - Small Gasoline and Compact Diesel Engines **Units: 3**
- MEAG 120 - Advanced Farm Machinery **Units: 3**
- PLANT 105 - Food, Society, and Environment **Units: 3**
- PLANT 120 - Row Crops **Units: 3**
- PLANT 121 - Cereal and Forage Crops **Units: 3**
- PLANT 122 - Range Ecology and Management **Units: 3**
- PLANT 123E - Vegetable Production **Units: 3**
- PLANT 124E - Organic Crop Production **Units: 3**
- PLANT 130 - Fruit Species of California **Units: 3**
- PLANT 132 - Principles of Pomology II **Units: 3**
- PLANT 133 - Citrus and Subtropical Fruits **Units: 3**
- PLANT 140 - Greenhouse & Nursery Crop Production **Units: 4**
- PLANT 141 - Woody Plant Materials **Units: 3**
- PLANT 142 - Herbaceous Plant Materials **Units: 3**
- PLANT 143 - Turfgrass Production and Management **Units: 3**
- PLANT 164 - Plant Nematology **Units: 3**
- PLANT 165 - Pesticides **Units: 3**
- PLANT 166 - Mycology **Units: 3**
- PLANT 167 - Diagnosis and Control of Plant Diseases **Units: 3**
- PLANT 168 - Biological Control **Units: 3**
- PLANT 170T - Topics in Plant Science **Units: 1-4**
- PLANT 174 - Soil and Water Management **Units: 3**

- PLANT 175 - Irrigation Systems **Units: 3**

Of the twenty four (24) units of electives required you may select one (1) to three (3) courses from outside of the major from the courses listed below.

Additional prerequisites may be required for some courses. Other electives outside the major not listed below may be considered, but will require prior department chair approval and may have additional prerequisites.

- AGBS 1 - Introductory Agricultural Economics **Units: 3**
- AGBS 28 - Introductory Agricultural Law **Units: 3**
- AGBS 31 - Farm Accounting **Units: 3**
- AGBS 100 - Intermediate Agricultural Economics **Units: 3**
- AGBS 109 - Management of Agri-food Supply Chains **Units: 3**
- AGBS 110 - Farm Management **Units: 3**
- AGBS 117 - Agricultural Labor-Management Relations **Units: 3**
- AGBS 120 - Agribusiness Management **Units: 3**
- AGBS 130 - Agricultural Finance **Units: 3**
- AGBS 140 - International Agricultural Economics **Units: 3**
- AGBS 150 - Agricultural and Food Policy **Units: 3**
- AGBS 155 - Environmental and Natural Resource Policy **Units: 3**
- AGBS 160 - Agricultural Marketing Analysis **Units: 3**
- AGBS 162 - Commodity Futures Trading **Units: 3**
- AGBS 163 - Agricultural Export Marketing **Units: 3**
- AGBS 164 - Agribusiness Sales Management **Units: 3**
- BIOL 124 - Vascular Plants **Units: 4**
- BIOL 125 - Plant Taxonomy **Units: 4**
- BIOL 132 - General Entomology **Units: 3**
- BIOL 140 - Plant Anatomy **Units: 3**
- BIOL 150 - Molecular Biology **Units: 3**
- BIOL 156 - Plant Growth and Development **Units: 3**
- BIOL 171 - Terrestrial Ecology **Units: 4**
- CHEM 105 - Quantitative Analysis Laboratory **Units: 4**
- EES 185 - Remote Sensing for the Natural Sciences **Units: 3**
- EES 186 - Environmental GIS **Units: 3**
- IT 186 - Applied Spatial Technology **Units: 3**
- VIT 101 - General Viticulture I **Units: 3**
- VIT 102 - General Viticulture II **Units: 3**
- VIT 103 - Table Grapes and Raisins: Production and Post-Harvest **Units: 3**

- VIT 106 - Winegrape Production **Units: 2**
- VIT 160 - Mechanized, Automated and Digital Viticulture **Units: 3**
- VIT 165 - Ampelography Grape Genetics **Units: 3**

Additional Requirements (16 units)

- CHEM 3A - Introductory General Chemistry **Units: 4** (Area B1)
- BIOL 11 - Plant Biology **Units: 3** (Area B2)
- MATH 11 - Elementary Statistics **Units: 3** (Area B4)
- CHEM 8 - Elementary Organic Chemistry **Units: 3**
OR
- CHEM 3B - Introductory Organic and Biochemistry **Units: 3**
- CHEM 150 - General Biochemistry **Units: 3**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI) - *Plant Science majors are exempt from the MI requirement.*
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. These courses include CHEM 3A (Area B1), BIOL 11 (Area B2), and MATH 11 (Area B4). See advisor for details.

Advising Notes

Consult with the Jordan College Advising and Career Development Center (JCACDC) adviser and/or faculty adviser each semester.

One semester prior to graduation, contact your JCACDC adviser to prepare and file any necessary course substitutions.

CR/NC grading is only permitted for PLANT 194I.

All prerequisites require a grade of C or higher.

The upper-division writing skills requirement is met by passing an approved upper-division writing skills course (i.e. PLANT 110W) to be taken no sooner than the term in which 60 units are completed.

Units earned for Community College courses may not count toward upper-division units in the major.

Students interested in professional certifications or licensures (Crop Adviser, Pest Control Adviser, Professional Soil Scientist, Certified Horticulturist, etc.) should consult with their faculty adviser, and/or the Jordan College Advising and Career Development Center.

Political Science, B.A.

Bachelor of Arts Degree Requirements

Major Requirements (39 units)

(see Notes 1 and 2)

Lower-Division Core:

(to be completed prior to or concurrently with enrollment in the first 6 units of upper-division major courses)

- PLSI 1 - Modern Politics **Units: 3**
- PLSI 90 - Methods of Analysis of Quantitative Political Data **Units: 3**

Upper-Division Core:

- PLSI 110 - Seminar in History of Political Thought to Machiavelli **Units: 3**
OR
- PLSI 111 - Seminar in History of Political Thought Since Machiavelli **Units: 3**

- PLSI 120 - International Politics **Units: 3**
- PLSI 140 - Approaches to Comparative Politics **Units: 3**
- PLSI 150 - Public Policy Making **Units: 3**

Upper-Division Political Science Electives (18 units):

(exclude PLSI 102 and PLSI 100W)

Capstone Course:

Select from

- PLSI 158I - Internship in Political Science **Units: 3**

- PLSI 192 - Study Abroad Capstone **Units: 3**
- PLSI 193 - Senior Research Capstone **Units: 3**
- SSCI 102H - Social Science Honors II **Units: 3**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. See advisor for details.

Advising Notes

CR/NC grading is not permitted in the political science major. General Education and elective units may be used toward a double major or minor (in something other than political science; see Double Major or departmental minor). Consult the appropriate department chair, program coordinator, or faculty advisor for further information.

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, PLSI 90 (lower-division) and PLSI 110 or PLSI 111, PLSI 120, PLSI 140, and PLSI 150 (upper-division) and Capstone Course (select from: PLSI 158I, PLSI 192, PLSI 193; SSCI 102H).

Psychology, B.A.

Bachelor of Arts Degree Requirements

Major Requirements (48 units)

Pre-Major Core:

13 - 14 units; see advising note 5

- PSYCH 10 - Introduction to Psychology **Units: 3**
- PSYCH 42 - Introductory to Statistics and Data Analysis **Units: 4**
- PSYCH 63 - Introduction to the Psychology Major **Units: 2**
- PSYCH 144 - Research Designs and Experimental Methods **Units: 5**

Foundation:

Choose at least four (13-15 units; see advising note 5).

- PSYCH 36 - Biological Psychology **Units: 3**
- PSYCH 66 - Abnormal Psychology **Units: 3**
- PSYCH 128 - Cognitive Psychology **Units: 4**
- PSYCH 136 - Behavioral Psychology **Units: 3**
- PSYCH 155 - Developmental Psychology **Units: 4**
- PSYCH 156 - Social Psychology **Units: 4**

Psychology Electives:

(12-16 units)

- PSYCH 120T - Topics in Cognition, Perception & Behavioral Neuroscience **Units: 2-5**
- PSYCH 121 - Learning and Memory **Units: 4**
- PSYCH 122 - Motivation **Units: 4**
- PSYCH 123 - Developmental Psychobiology **Units: 4**
- PSYCH 124 - Sensation and Perception **Units: 4**
- PSYCH 125 - Behavioral Neuroscience **Units: 4**
- PSYCH 126 - Cognitive Neuroscience **Units: 4**
- PSYCH 127 - Forensic Cognitive Science **Units: 4**
- PSYCH 129 - Mind, Brain and Memory **Units: 4**
- PSYCH 133 - Neuropsychology **Units: 4**
- PSYCH 140T - Topics in Psychological Methods **Units: 4**
- PSYCH 143 - Intermediate Computer-based Statistical Analysis **Units: 4**
- PSYCH 149 - Psychological Testing **Units: 4**
- PSYCH 151 - Health Psychology **Units: 3**
- PSYCH 152 - Stereotypes, Prejudices and Discrimination **Units: 4**
- PSYCH 154 - Personality **Units: 4**
- PSYCH 157 - Evolutionary Psychology **Units: 4**
- PSYCH 160T - Topics in Clinical Processes **Units: 2-5**
- PSYCH 162 - Introduction to Clinical Psychology **Units: 4**
- PSYCH 163 - Multicultural Psychology **Units: 4**
- PSYCH 164 - Movies and Mental Illness **Units: 4**
- PSYCH 169 - Psychological Aspects of Physical Disability **Units: 3**
- PSYCH 170T - Topics in Psychological Applications **Units: 2-5**
- PSYCH 171S - Community Mental Health **Units: 4**

- PSYCH 172 - Applied Behavior Analysis **Units: 4**
- PSYCH 175 - Family Counseling **Units: 3**
- PSYCH 176 - Industrial Psychology **Units: 3**
- PSYCH 177 - Behavioral and Cognitive Change Techniques **Units: 4**
- PSYCH 178S - Psychology of Special Populations **Units: 4**
- PSYCH 179I - Supervised Field Experience **Units: 4**
- PSYCH 180T - Seminar in Psychology **Units: 1-5**
- PSYCH 181 - Organizational Behavior Management **Units: 4**
- PSYCH 182 - History and Systems **Units: 4**
- PSYCH 184A - Community Intervention & Behavior Support **Units: 3**

Major Unit Requirements

Additional courses from the Foundation and Psychology Electives areas to reach a minimum of 48 units

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. See advisor for details.

Advising Notes

Advising for psychology students is done by both the Psychology Advising Office in the Department of Psychology and by the Advising Resource Center (ARC) in the College of Science and Mathematics. The Psychology Advising Office primarily handles advising related specifically to the psychology major and minor. ARC primarily handles GE advising and is responsible for lifting second-semester advising and My Degree Plan holds.

When students first apply to the major, they are given pre-psychology major status. They must then complete the Pre-

Major Core courses or their equivalents with grades of C or better and have earned a cumulative grade point average of at least 2.0 before applying for full psychology major status.

Students should apply for full psychology major status during the semester in which they expect to complete the Pre-Major Core courses. Approval will be contingent on the satisfactory completion of these courses.

Most upper-division psychology courses are restricted to students with full psychology major or minor status. Students with pre-psychology major status are limited to the Pre-Major Core courses, other lower-division courses (PSYCH 36 and PSYCH 66), and a small number of additional upper-division courses (PSYCH 162, PSYCH 169, and PSYCH 175).

The number of units in the Pre-Major Core is 14 when students take the four-unit PSYCH 42. It is 13, however, for students who transfer with a three-unit statistics course.

The number of Psychology Elective units required depends on the number of units taken in the Pre-Major Core and Foundation areas. It can range from 13 units for students who take the four-unit PSYCH 42 plus all six Foundation courses, to as many as 21 units for students who transfer with a three-unit statistics course and take the minimum of four Foundation courses.

CR/NC grading is not permitted in the psychology major.

Recreation Administration - Community Recreation, Youth Development, and Senior Services Emphasis, B.S.

Bachelor of Science Degree Requirements

Major Requirements (65-67 units)

The following core program courses are required of all candidates for this degree. Additional required courses dependent upon the selected emphasis area.

Core Courses (27 units)

- RA 55 - Foundations and Careers in Recreation, Parks, and Tourism **Units: 3**
- RA 60 - Technologies in Recreation, Parks and Tourism **Units: 1**
- RA 73S - Leadership in Recreation, Parks, and Tourism **Units: 3**
- RA 77S - Recreation, Parks, and Tourism Programming **Units: 3**
- RA 80 - Lifelong Learning in the Natural Environment **Units: 3**

- RA 101 - Leisure and Human Behavior **Units: 3**
- RA 125 - Diversity and Inclusive Practices in Recreation Therapy and Recreation **Units: 3**
- RA 128 - Legal and Financial Aspects of Recreation, Parks, and Tourism **Units: 4**
- RA 179 - Supervision and Administration in Recreation, Parks, and Tourism **Units: 3**
- RA 180 - Professional Placement in Recreation, Parks, and Tourism **Units: 1**

Community Recreation, Youth Development, & Senior Services Emphasis (38-40 units)

- RA 113 - Programming for Youth At-Risk **Units: 3**
- RA 117 - Special Event Planning **Units: 3**
- RA 121 - Community and Non-Profit Recreation Services **Units: 3**
- RA 133 - Recreation and Parks Facilities Planning and Operations **Units: 3**
- RA 135 - Recreation, Parks, and Tourism Marketing **Units: 3**
OR
- MKTG 100S - Marketing Concepts **Units: 4**
- RA 139 - Research and Evaluation in Recreation, Parks, and Tourism **Units: 3**
- RA 184I - Internship in Recreation, Parks, Tourism and Recreation Therapy **Units: 12**

Select From the Following: (8-9 units)

- RA 106 - Challenge Course Facilitation **Units: 3**
- RA 142 - Foundations of Recreation Therapy **Units: 3**
- RA 192T - Topics in Recreation, Parks, and Tourism **Units: 1-3**
- CFS 39 - Introduction to Child Development **Units: 3**
- CRIM 120 - Juvenile Delinquency **Units: 3**
- CSDS 139 - Deaf Culture **Units: 3**
- BA 105W - Business Communication **Units: 3**
- GERON 10S - Journey of Adulthood: Planning a Meaningful Life **Units: 3**
- GERON 115 - Health Issues of Aging **Units: 3**
- GERON 161 - Multiculture/Aging **Units: 3**
- HHS 116W - Interprofessional Communication in Health and Human Services **Units: 3**
- MCJ 152S - Fundamentals of Public Relations **Units: 3**
- PH 100 - Community Health **Units: 3**
- PLSI 163 - Municipal Government **Units: 3**
- PSYCH 101 - Child Psychology **Units: 3**
OR
- PSYCH 102 - Adolescent Psychology **Units: 3**
- SOC 144 - Social Policy Analysis **Units: 3**
- SOC 163 - Urban Sociology **Units: 3**

- SOC 183S - Philanthropy and Grant Making **Units: 3**
- SOC 184S - Grant Writing & Evaluation **Units: 3**
- SWRK 128 - Child Welfare **Units: 3**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. See advisor for details.

Advising Notes

CR/NC grading is not permitted in the recreation administration major with the exceptions of REC 74, REC 75, REC 82, REC 83, REC 84, REC 86, REC 87, REC 88; RA 115, and RA 192T.

General Education and elective units may be used toward a minor (see departmental minor below). Consult the appropriate department chair, program coordinator, or faculty advisor for further information.

Students are advised to take HHS 116W to fulfill the Upper-Division Writing Skills requirement.

All Recreation Administration courses used in the major must be completed with a grade of C or higher.

Recreation Administration - Outdoor Recreation and Natural Resource Management Emphasis, B.S.

Bachelor of Science Degree Requirements

Major Requirements (70-71 units)

The following core program courses are required of all candidates for this degree. Additional required courses dependent upon the selected emphasis area.

Core Courses (27 units)

- RA 55 - Foundations and Careers in Recreation, Parks, and Tourism **Units: 3**
- RA 60 - Technologies in Recreation, Parks and Tourism **Units: 1**
- RA 73S - Leadership in Recreation, Parks, and Tourism **Units: 3**
- RA 77S - Recreation, Parks, and Tourism Programming **Units: 3**
- RA 80 - Lifelong Learning in the Natural Environment **Units: 3**
- RA 101 - Leisure and Human Behavior **Units: 3**
- RA 125 - Diversity and Inclusive Practices in Recreation Therapy and Recreation **Units: 3**
- RA 128 - Legal and Financial Aspects of Recreation, Parks, and Tourism **Units: 4**
- RA 179 - Supervision and Administration in Recreation, Parks, and Tourism **Units: 3**
- RA 180 - Professional Placement in Recreation, Parks, and Tourism **Units: 1**

Outdoor Recreation and Natural Resource Management Emphasis (43-44 units)

- RA 131 - Foundations of Special Events and Tourism **Units: 3**
- RA 133 - Recreation and Parks Facilities Planning and Operations **Units: 3**
- RA 135 - Recreation, Parks, and Tourism Marketing **Units: 3**
OR
- MKTG 100S - Marketing Concepts **Units: 4**
- RA 139 - Research and Evaluation in Recreation, Parks, and Tourism **Units: 3**
- RA 146 - Adventure Based Programming **Units: 3**
- RA 184I - Internship in Recreation, Parks, Tourism and Recreation Therapy **Units: 12**
- RA 145 - Environmental Interpretation **Units: 3**
- REC 82 - Wilderness Survival Skills **Units: 1**
- REC 87 - A Yosemite Experience **Units: 1**

Select 11 units From the Following:

- COUN 174 - Introduction to Counseling **Units: 3**
- ENTR 81E - Introduction to Entrepreneurship **Units: 3**
- GEOG 135 - Environmental Protection **Units: 3**
- GEOG 139T - Environmental Regions **Units: 3**

- EES 3 - Geology Field Trip **Units: 1**
- PH 48 - First Responder and Emergency Care **Units: 3**
- KINES 122 - Nontraditional Games and Outdoor Education **Units: 3**
- RA 106 - Challenge Course Facilitation **Units: 3**
- RA 113 - Programming for Youth At-Risk **Units: 3**
- RA 130 - International Tourism: Multicultural Issues and Impacts **Units: 3**
- RA 192T - Topics in Recreation, Parks, and Tourism **Units: 1-3**
- REC 74 - Games for All Ages **Units: 1**
- REC 75 - Adventure Ropes Course Experience **Units: 1**
- REC 83 - Whitewater Rafting **Units: 1**
- REC 84 - Orienteering **Units: 1**
- REC 86 - Backpacking in the Sierra Mountains **Units: 1**
- REC 88 - Rock Climbing **Units: 1**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. See advisor for details.

Advising Notes

CR/NC grading is not permitted in the recreation administration major with the exceptions of REC 74, REC 75, REC 82, REC 83, REC 84, REC 86, REC 87, REC 88; RA 115, and RA 192T.

General Education and elective units may be used toward a minor (see departmental minor below). Consult the appropriate department chair, program coordinator, or faculty advisor for further information.

Students are advised to take HHS 116W to fulfill the Upper-Division Writing Skills requirement.

All Recreation Administration courses used in the major must be completed with a grade of C or higher.

Recreation Administration - Recreation Therapy Emphasis, B.S.

Bachelor of Science Degree Requirements

Major Requirements (68 units)

The following core program courses are required of all candidates for this degree. Additional required courses dependent upon the selected emphasis area.

Core Courses (27 units)

- RA 55 - Foundations and Careers in Recreation, Parks, and Tourism **Units: 3**
- RA 60 - Technologies in Recreation, Parks and Tourism **Units: 1**
- RA 73S - Leadership in Recreation, Parks, and Tourism **Units: 3**
- RA 77S - Recreation, Parks, and Tourism Programming **Units: 3**
- RA 80 - Lifelong Learning in the Natural Environment **Units: 3**
- RA 101 - Leisure and Human Behavior **Units: 3**
- RA 125 - Diversity and Inclusive Practices in Recreation Therapy and Recreation **Units: 3**
- RA 128 - Legal and Financial Aspects of Recreation, Parks, and Tourism **Units: 4**
- RA 179 - Supervision and Administration in Recreation, Parks, and Tourism **Units: 3**
- RA 180 - Professional Placement in Recreation, Parks, and Tourism **Units: 1**

Recreation Therapy Emphasis Area (41 units)

- RA 142 - Foundations of Recreation Therapy **Units: 3**
- RA 144A - Assessment and Documentation in Recreation Therapy **Units: 3**
- RA 144B - Facilitation Techniques in Recreation Therapy **Units: 3**
- RA 148 - Process and Principles in Recreation Therapy **Units: 3**
- RA 149 - Trends and Issues in Recreation Therapy **Units: 3**
- RA 184I - Internship in Recreation, Parks, Tourism and Recreation Therapy **Units: 12**
- BIOL 33 - Introductory Human Anatomy and Physiology **Units: 5**
- PSYCH 66 - Abnormal Psychology **Units: 3**
- CFS 38 - Life Span Development **Units: 3**

Select From the Following: (3 units)

- PSYCH 101 - Child Psychology **Units: 3**
- PSYCH 102 - Adolescent Psychology **Units: 3**
- COUN 174 - Introduction to Counseling **Units: 3**
- CFS 131 - Family Theories **Units: 3**
- CFS 136 - Adolescence **Units: 3**
- CRIM 100 - Criminology **Units: 3**
- CRIM 120 - Juvenile Delinquency **Units: 3**
- SOC 143 - Deviance and Control **Units: 3**
- SOC 147 - Medical Sociology **Units: 3**
- SOC 168 - Interpersonal Relationships **Units: 3**
- GERON 103 - Psychology of Aging **Units: 3**
- GERON 132 - Alzheimer's Disease **Units: 1**
- GERON 161 - Multiculture/Aging **Units: 3**
- PHTH 105 - Medical Terminology for Health Professionals **Units: 3**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. See advisor for details.

Advising Notes

CR/NC grading is not permitted in the recreation administration major with the exceptions of REC 74, REC 75, REC 82, REC 83, REC 84, REC 86, REC 87, REC 88; RA 115, and RA 192T.

General Education and elective units may be used toward a minor (see departmental minor below). Consult the appropriate department chair, program coordinator, or faculty advisor for further information.

Students are advised to take HHS 116W to fulfill the Upper-Division Writing Skills requirement.

All Recreation Administration courses used in the major must be completed with a grade of C or higher.

Students are strongly encouraged to seek academic advising every semester to ensure eligibility for certification.

Students should be prepared to incur additional costs related to completion of fieldwork and practicum assignments including background check fees and transportation to clinical facilities. Specific immunizations may be required.

In compliance with Federal Requirements for Posting Licensure and Certification Eligibility, please see the CSU Chancellor's Office calstate.edu website.

Recreation Administration - Special Events & Tourism Emphasis, B.S.

Bachelor of Science Degree Requirements

Major Requirements (65-66 units)

The following core program courses are required of all candidates for this degree. Additional required courses dependent upon the selected emphasis area.

Core Courses (27 units)

- RA 55 - Foundations and Careers in Recreation, Parks, and Tourism **Units: 3**
- RA 60 - Technologies in Recreation, Parks and Tourism **Units: 1**
- RA 73S - Leadership in Recreation, Parks, and Tourism **Units: 3**
- RA 77S - Recreation, Parks, and Tourism Programming **Units: 3**
- RA 80 - Lifelong Learning in the Natural Environment **Units: 3**
- RA 101 - Leisure and Human Behavior **Units: 3**
- RA 125 - Diversity and Inclusive Practices in Recreation Therapy and Recreation **Units: 3**
- RA 128 - Legal and Financial Aspects of Recreation, Parks, and Tourism **Units: 4**
- RA 179 - Supervision and Administration in Recreation, Parks, and Tourism **Units: 3**
- RA 180 - Professional Placement in Recreation, Parks, and Tourism **Units: 1**

Special Events and Tourism Emphasis Area (38-39 units)

- RA 117 - Special Event Planning **Units: 3**
- RA 130 - International Tourism: Multicultural Issues and Impacts **Units: 3**

- RA 131 - Foundations of Special Events and Tourism **Units: 3**

- RA 133 - Recreation and Parks Facilities Planning and Operations **Units: 3**

- RA 135 - Recreation, Parks, and Tourism Marketing **Units: 3**
OR

- MKTG 100S - Marketing Concepts **Units: 4**

- RA 139 - Research and Evaluation in Recreation, Parks, and Tourism **Units: 3**

- RA 184I - Internship in Recreation, Parks, Tourism and Recreation Therapy **Units: 12**

- ACCT 3 - Essentials of Accounting **Units: 3**
OR

- ACCT 4A - Financial Accounting Principles and Systems **Units: 3**

Select From the Following: (5 units)

- BA 18 - Business and the Legal Environment **Units: 4**
- COMM 103 - Advanced Public Speaking **Units: 3**
- ENTR 81E - Introduction to Entrepreneurship **Units: 3**
- MCJ 106 - Publication Design **Units: 3**
- MCJ 142 - Advertising Procedures **Units: 3**
- MCJ 152S - Fundamentals of Public Relations **Units: 3**
- RA 119 - Conference, Convention, and Meeting Planning **Units: 3**
- RA 146 - Adventure Based Programming **Units: 3**
- RA 150 - Sports and Entertainment Facility Management **Units: 3**
- RA 192T - Topics in Recreation, Parks, and Tourism **Units: 1-3**
- REC 74 - Games for All Ages **Units: 1**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. See advisor for details.

Advising Notes

CR/NC grading is not permitted in the recreation administration major with the exceptions of REC 74, REC 75, REC 82, REC 83, REC 84, REC 86, REC 87, REC 88; RA 115, and RA 192T.

General Education and elective units may be used toward a minor (see departmental minor below). Consult the appropriate department chair, program coordinator, or faculty advisor for further information.

Students are advised to take HHS 116W to fulfill the Upper-Division Writing Skills requirement.

All Recreation Administration courses used in the major must be completed with a grade of C or higher.

Recreation Administration - Sports & Entertainment Facility Management Emphasis, B.S.

Bachelor of Science Degree Requirements

Major Requirements (67-69 units)

The following core program courses are required of all candidates for this degree. Additional required courses dependent upon the selected emphasis area.

Core Courses (27 units)

- RA 55 - Foundations and Careers in Recreation, Parks, and Tourism **Units: 3**
- RA 60 - Technologies in Recreation, Parks and Tourism **Units: 1**
- RA 73S - Leadership in Recreation, Parks, and Tourism **Units: 3**
- RA 77S - Recreation, Parks, and Tourism Programming **Units: 3**
- RA 80 - Lifelong Learning in the Natural Environment **Units: 3**
- RA 101 - Leisure and Human Behavior **Units: 3**
- RA 125 - Diversity and Inclusive Practices in Recreation Therapy and Recreation **Units: 3**
- RA 128 - Legal and Financial Aspects of Recreation, Parks, and Tourism **Units: 4**

- RA 179 - Supervision and Administration in Recreation, Parks, and Tourism **Units: 3**
- RA 180 - Professional Placement in Recreation, Parks, and Tourism **Units: 1**

Sports and Entertainment Facility Management Emphasis Area (40-42 units)

Complete

- RA 117 - Special Event Planning **Units: 3**
- RA 133 - Recreation and Parks Facilities Planning and Operations **Units: 3**
- RA 135 - Recreation, Parks, and Tourism Marketing **Units: 3**
OR
- MKTG 100S - Marketing Concepts **Units: 4**
- RA 139 - Research and Evaluation in Recreation, Parks, and Tourism **Units: 3**
- RA 150 - Sports and Entertainment Facility Management **Units: 3**
- RA 152 - Sports and Entertainment Facility Booking, Promotion and Box Office Operations **Units: 3**
- RA 154 - Sports and Entertainment Facility Operations **Units: 4**
- RA 184I - Internship in Recreation, Parks, Tourism and Recreation Therapy **Units: 12**
- ACCT 3 - Essentials of Accounting **Units: 3**
OR
- ACCT 4A - Financial Accounting Principles and Systems **Units: 3**

Select From the Following: (3-4 units)

- BA 18 - Business and the Legal Environment **Units: 4**
- COMM 103 - Advanced Public Speaking **Units: 3**
- PH 143 - Occupational Safety **Units: 3**
- MCJ 106 - Publication Design **Units: 3**
- MCJ 152S - Fundamentals of Public Relations **Units: 3**
- MKTG 150 - Sports Marketing **Units: 3**
- RA 119 - Conference, Convention, and Meeting Planning **Units: 3**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)

- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. See advisor for details.

Advising Notes

CR/NC grading is not permitted in the recreation administration major with the exceptions of REC 74, REC 75, REC 82, REC 83, REC 84, REC 86, REC 87, REC 88; RA 115, and RA 192T.

General Education and elective units may be used toward a minor (see departmental minor below). Consult the appropriate department chair, program coordinator, or faculty advisor for further information.

Students are advised to take HHS 116W to fulfill the Upper-Division Writing Skills requirement.

All Recreation Administration courses used in the major must be completed with a grade of C or higher.

Social Science, B.A. (Continuing & Global Education)

Bachelor of Arts Degree Requirements

The BA in Social Science provides students with an understanding of major theoretical perspectives in the social sciences with a focus on how the social environment, culture, inequalities, and policies shape individual experiences; knowledge about how to utilize social science concepts in the analysis of social phenomena; opportunities to develop critical thinking, written, and oral communication skills rooted in social science perspectives; an appreciation of socio-cultural diversity within and among societies; and applied quantitative and qualitative research skills.

Major Requirements (30 units)

Major Statistics Requirement (3 units)

- MATH 11 - Elementary Statistics **Units: 3 (B4)**

Major Theory Requirement (3-4 units)

- ANTH 104 - History of Anthropology **Units: 3**
- SOC 152 - Classical Sociological Theory **Units: 4**
- SOC 153 - Sociological Theory **Units: 4**
- WGSS 143 - Feminist Theory **Units: 3**

Major Methods Requirement (3-4 units)

- ANTH 111 - Ethnographic Fieldwork **Units: 3**
- CLAS 150 - Research Methods **Units: 3**
- CRIM 170 - Research Methods in Criminal Justice **Units: 3**
- SOC 175 - Quantitative Research Methods in Sociology **Units: 4**
- SOC 176 - Qualitative Research Methods in Sociology **Units: 4**
- WGSS 153 - Feminist Research Methodologies **Units: 3**

Major Inequality Requirement (3-4 units)

- AFRS 104W - Writing About American Inequality **Units: 3**
- CLAS 160 - Sex, Race, and Class in American Society **Units: 3 (Area MI)**
- SOC 151 - Social Classes and Inequality **Units: 4**
- SSCI 180 - Diversity in the U.S. **Units: 3 (Area MI)**

Major Public Policy Requirement (3 units)

- PLSI 150 - Public Policy Making **Units: 3**
- PLSI 151 - Political Participation and Political Parties **Units: 3**
- PLSI 152 - Public Opinion and Political Behavior **Units: 3**
- PLSI 175 - Water Politics and Policy **Units: 3**
- SOC 144 - Social Policy Analysis **Units: 3**
- WGSS 149 - Gender Law & Social Policy **Units: 3 (ID)**

Major Criminology Requirement (6 units)

- CRIM 120 - Juvenile Delinquency **Units: 3 (ID)**
- CRIM 138 - Punishment and Society **Units: 3**
- CRIM 178 - Restorative Justice **Units: 3**
- SOC 143 - Deviance and Control **Units: 3 (ID)**
- WGSS 126 - Women and Violence: Public Policy and the Law **Units: 3**
- CRIM 126 - Women and Violence: Public Policy and the Law **Units: 3**

Major Diversity Requirement (6 units)

- AFRS 144 - Race Relations **Units: 3 (ID)**

- AFRS 165 - African-American Theatre **Units: 3**
- DRAMA 187 - African-American Theatre **Units: 3**
- AIS 105W - American Indian Oral Traditions and Literatures **Units: 3**
- ANTH 115 - Contemporary Global Culture **Units: 3**
- ANTH 120 - Race and Ethnic Relations in the U.S. **Units: 3 (M/I)**
- ASAM 110 - Asian American Communities **Units: 3 (M/I)**
- CLAS 102W - Contemporary Chicana/Latina Writing and Culture **Units: 3**
- CLAS 120 - Latina/o Cultural Changes **Units: 3 (F)**
- COMM 164 - Intercultural Communication **Units: 3 (M/I)**
- CRIM 174 - Ethnic and Gender Issues in Criminal Justice **Units: 3**
- GEOG 167 - People and Places-A Global Perspective **Units: 3 (M/I)**
- GERON 161 - Multiculture/Aging **Units: 3**
- HIST 101 - Women in History **Units: 3 (ID)**
- WGSS 101 - Women in History **Units: 3 (ID)**
- SOC 111 - Sociology of Race and Ethnicity **Units: 3 (M/I)**
- SOC 131 - Sociology of Sex and Gender **Units: 3 (ID)**
- SWRK 136 - Cultural Diversity and Oppression **Units: 3**
- WGSS 110 - Representations of Women, Gender, and Sexuality **Units: 3 (IC)**
- WGSS 120 - Women of Color in the United States **Units: 3**
- WGSS 135 - Women In Cross-Cultural Perspective **Units: 3 (M/I)**
- WGSS 195 - Diversity in the United States: Race and Gender Issues **Units: 3**

Major Environmental Studies Requirement (3 units)

- EES 167 - Oceans and Atmosphere and Climate **Units: 3 (IB)**
- EES 168 - California's Earth System **Units: 3 (IB)**
- GEOG 115 - Violent Weather/Climatic Hazards **Units: 3 (IB)**
- GEOG 128 - Environmental Pollution **Units: 3 (IB)**
- SOC 158 - Environmental Sociology **Units: 3 (IB)**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing

- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total: 120 Units*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. This includes MATH 11 (Area B4). See advisor for details.

- Memos waiving all prerequisites for the listed requirement courses are included in this application. In other words, there are no hidden prerequisites.

- Additionally, there are no major requirement (category 1) elective units in the major. Free electives are not listed here other than when students take multiple courses in the major requirement categories beyond the required units. With limited course offerings each semester, most students will take multiple courses in each major requirement category. This implicit iterative exposure to core elements of the Program is an intentional part of the design. Mindful of the precarious nature of incarceration including early paroles and transfers, new cohort members will join at times other than every other fall. In fact, participation in this program might hasten the occasion of early parole since participation in this program may illustrate worthiness of early release.

Social Work, B.A.

The Bachelor of Arts Degree

Requirements

The bachelor's degree program prepares students to enter supervised professional social work practice and/or pursue admission to a range of graduate study programs and professional schools. This includes graduate study in social work leading to a master's in social work.

The bachelor's degree program in social work is a sequenced program that requires four consecutive semesters to complete. All prerequisites must be completed prior to entry into the social work program. A cohort of social work students begins the program in the fall semester of an academic year. No social work students are permitted to begin the program in the spring semester. Students majoring in social work must complete the following prerequisites, including successful application/admission, before being permitted to

enroll in restricted and sequenced 100-level social work courses. Students who begin at Fresno State as freshman will enter the major after demonstrating competence and fit through success in the pre-health major. The application date for native students and transfer students will be available on the Department of Social Work Education website.

Complete all lower-division General Education courses.

Earn a cumulative grade point average of at least 2.7.

Formally apply for upper-division social work major status.

The following eight prerequisite courses must be completed:

- G.E. Area A1 (COMM 3, COMM 7, or COMM 8) (3 units)
- G.E. Area A2 (ENGL 10/ENGL 5B) (3 units)
- G.E. Area A3* Critical Thinking (3 units)
- G.E. Area B4* Quantitative Reasoning (3 units)
- G.E. Area D2 Social Science (ECON 25, ECON 40 or ECON 50) (3 units)
- G.E. Area E Life-long Understanding (PH 90) (3 units)
- American Government & Institutions (PLSI 2) (3 units)
- SWRK 20 (3 units)

Total (24 units)

* See lower-division General Education list for university approved courses. Each prerequisite must be completed with a minimum C grade CR/NC grades are not acceptable. A GPA of 2.7 or above is required in the eight prerequisite courses.

Students may enroll in upper-division social work major status in the Social Work Education Department office upon successful completion of the above prerequisite requirements. Eligibility for enrollment will be contingent upon satisfactory fulfillment of these requirements.

Major Requirements (42 units)

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 advisor 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.

- SWRK 20 - Introduction to Social Work **Units: 3**
- SWRK 123 - Social Welfare Policies and Programs **Units: 3**
- SWRK 135 - Human Behavior and the Social Environment **Units: 3**
- SWRK 136 - Cultural Diversity and Oppression **Units: 3**
- SWRK 160 - Social Work Practice: Professional Identity **Units: 3**
- SWRK 161 - Social Work Processes **Units: 3**
- SWRK 170 - Quantitative Research in Social Work: Theory and Application **Units: 3**
- SWRK 171 - Qualitative Research in Social Work: Theory and Application **Units: 3**

- SWRK 180 - Seminar in Macro Practice **Units: 3**
- SWRK 181I - Field Instruction A **Units: 6**
- SWRK 182I - Field Instruction B **Units: 6**
- SWRK 183 - Seminar in Micro Practice **Units: 3**

Additional Requirements (18 units)

May also count toward General Education

Select One:

- GERON 100 - Images of Aging in Contemporary Society **Units: 3**
- GERON 103 - Psychology of Aging **Units: 3**
- PHIL 1 - Introduction to Philosophy **Units: 3**
- PHIL 20 - Moral Questions **Units: 3**
- ASAM 138 - Asian American Women **Units: 3**

Select One:

- GERON 134 - Mental Health and Caregiving **Units: 3**
- GERON 139 - Death and Dying **Units: 3**
- PHIL 120 - Contemporary Conflicts of Morals **Units: 3**
- PHIL 131 - Comparative Religion **Units: 3**
- PHIL 150 - Foundations of Knowledge **Units: 3**
- ASAM 140 - Hmong, Laotian and Cambodian American Experience **Units: 3**

Approved Upper-Division Electives (9 units)

(see list in department office)

- Cultural Diversity Ethnic Studies including Africana Studies and American Indian Studies; Chicano and Latin American Studies, Asian American Studies, or Women's Studies **Units: 3**
- Six units from two of the following areas: Anthropology, Criminology, Psychology, or Sociology **Units: 6**

Select Three Units From the Following:

- SWRK 124 - Social Welfare Policy Advocacy **Units: 1**
- SWRK 125 - Social Services for the Aging **Units: 3**
- SWRK 128 - Child Welfare **Units: 3**
- SWRK 129 - Treatment of Chemical Dependency **Units: 3**
- SWRK 137 - Principles in Cross-Cultural Competence **Units: 3**
- SWRK 152 - Introduction to Mediation & Conflict Resolution for Human Service Professionals **Units: 3**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. See advisor for details.

Advising Notes

Foundational social work major courses must be taken in the sequence specified below:

Junior year (semester 1): SWRK 123, SWRK 135, and SWRK 160

Junior year (semester 2): SWRK 136, SWRK 161, and SWRK 170

Senior year (semester 1): SWRK 171, SWRK 180, SWRK 181I

Senior year (semester 2): SWRK 182I, SWRK 183, and SWRK elective

Approved course listings are available in the department office and on the Web. Consult your faculty advisor for assistance in selecting a pattern of courses to fit your particular interests and goals.

CR/NC grading is not permitted in the social work major with the exception of SWRK 181I and SWRK 182I.

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 advisor for further information.

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.

Students who have prior knowledge of Spanish or Southeast Asian languages but lack fluency are encouraged to take additional coursework in the languages.

A booklet describing the program more fully is available in the department office and on the Web.

Sociology, B.A.

Bachelor of Arts Degree Requirements

Major Requirements (45 units)

Tier One Lower-Division: (6 units)

- SOC 1 - Principles of Sociology **Units: 3**
OR
- SOC 1S - Principles of Sociology **Units: 3**
AND
- SOC 3 - Critical Thinking About Society **Units: 3**
OR
- SOC 3S - Critical Thinking About Society **Units: 3**
OR
- SSCI 16 - Introduction to Global Studies **Units: 3**

Tier Two Upper-Division: (4-8 units)

(See Major Advising Note 2)

- SOC 125 - Statistics for the Social Sciences **Units: 4**
AND
- SOC 130W - Contemporary Social Issues **Units: 4**
OR
- SOC 130WS - Contemporary Social Issues **Units: 4**

Tier Three (Theory and Methods): (16 units)

- SOC 151 - Social Classes and Inequality **Units: 4**
- SOC 152 - Classical Sociological Theory **Units: 4**
OR
- SOC 153 - Sociological Theory **Units: 4**
- SOC 175 - Quantitative Research Methods in Sociology **Units: 4**
AND
- SOC 176 - Qualitative Research Methods in Sociology **Units: 4**

Sociology Upper-Division Electives (15-19 units)

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. These courses include SOC 3 or SOC 3S (Area A3) and SOC 1 or SOC 1S (Area D2). See advisor for details.

Note: For sociology majors, SOC 111 and SOC 142 will not double count towards the MI Requirement and will need to take an MI course outside the Department of Sociology.

Major Advising Notes

Tier One Lower-Division courses - SOC 1/SOC 1S and SOC 3/SOC 3S or SSCI 16 - must be completed with a grade of C or better before enrollment in Tier Two Upper-Division courses.

Tier Two Upper Division courses - SOC 125 and SOC 130W /SOC 130WS - 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.

Tier Three Theory and Methods Core - SOC 152 or SOC 153, SOC 151, SOC 175, and SOC 176 - must be completed with a 2.0 GPA.

Upper-division electives may be taken in any sequence.

CR/NC grading is not permitted in the sociology major, except for courses offered only under CR/NC grading.

Spanish, B.A.

Bachelor of Arts Degree Requirements

Major Requirements (39-53 units)

(see Advising Notes 1, 2, and 3 below)

Lower Division: (14 units)

(see Advising Notes 3 and 4)

- SPAN 1A - Elementary Spanish **Units: 4**
- SPAN 1B - Elementary Spanish **Units: 4 (Area C1)**
- SPAN 2A - Spanish for Communication **Units: 3 (Area C1)**
- SPAN 2B - Spanish for Communication **Units: 3 (Area C1)**
- SPAN 3 - Reading and Writing **Units: 3 (Area C1)**
- SPAN 4A - Spanish for the Bilingual Student **Units: 3 (Area C1)**
- SPAN 4B - Spanish for the Bilingual Student **Units: 3 (Area C1)**
- SPAN 5 - Spanish for Conversation **Units: 3**

Upper Division: (39 units)

- SPAN 119 - Advanced Grammar **Units: 3**
- SPAN 121A - Composition A **Units: 3**
- SPAN 121B - Composition B **Units: 3**
- SPAN 140 - Introduction to Literary Analysis **Units: 3**
- SPAN 142 - Introduction to Spanish Literature **Units: 3**
- SPAN 143 - Introduction to Spanish-American Literature **Units: 3**
- SPAN 170 - Senior Seminar in Spanish Studies **Units: 3**
- Electives (exclude SPAN 110T) **Units: 12**

Select From (6 units)

- SPAN 145 - Mexican Literature **Units: 3**
- SPAN 147 - Twentieth Century Spanish-American Literature **Units: 3**
- SPAN 148T - Major Themes in Hispanic Literature **Units: 3**
- SPAN 149 - The Golden Age **Units: 3**
- SPAN 150 - Twentieth Century Spanish Literature **Units: 3**
- SPAN 165 - Modernismo - 1950 **Units: 3**
- SPAN 166 - Spanish American Poetry and the Political Imagination **Units: 3**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing

- **Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.**

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. These courses include SPAN 1B, SPAN 2A, SPAN 2B, SPAN 3, SPAN 4A, and/or SPAN 4B (Area C1 and third course in Area C1/Area C2). See advisor for details.

Advising Notes

CR/NC grading is not permitted for courses in the Spanish major except for those taken Credit by Examination.

Students must receive a minimum grade of C in each upper-division course used toward the Spanish major.

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 advisor for additional details.

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 advisor 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, SPAN 2A, SPAN 2B, SPAN 3, or SPAN 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 SPAN 4A and SPAN 4B as prerequisites to upper-division Spanish courses. These prerequisites can be challenged through Credit by Examination.

Theatre Arts - Acting Emphasis, B.A.

Bachelor of Arts Degree

Requirements

The theatre arts major, dance major, and minors are designed to provide competencies in theatre and dance for students who intend to pursue study beyond the Bachelor of Arts degree, who are preparing for careers in teaching or for the professional performing arts. With the assistance of their advisors and with departmental approval,

students follow a track of advanced courses specializing in the areas of Acting or Design/Technology or Theatre Education, or students may opt for advanced courses covering a broad range of study by selecting the General track. The Dance program offers intensive studies in dance performance, choreography, and theory.

Major Requirements (53 units)

Core: (24 units)

(See note 1)

- DRAMA 10 - The Art of Theatre **Units: 3**
- DRAMA 33 - Fundamentals of Acting **Units: 3**
- DRAMA 34 - Theatre Crafts **Units: 3**
- DRAMA 110 - Design for the Theatre **Units: 3**
- DRAMA 139 - Fundamentals of Play Direction **Units: 3**
- DRAMA 163 - Dramatic Literature **Units: 3**
- DRAMA 185 - History of the Theatre and Drama I **Units: 3**
- DRAMA 186 - History of the Theatre and Drama II **Units: 3**

Production: (8 units)

- DRAMA 115 - Dramatic Arts Laboratory **Units: 1-2**

Acting Emphasis (21 units)

- DANCE 20 - Physical Theatre **Units: 3**
- DRAMA 30 - Voice and Speech for Performance **Units: 3**
- DRAMA 35 - Intermediate Acting **Units: 3**
- DRAMA 41 - Makeup for Theatre **Units: 3**
- DRAMA 132 - Advanced Acting: Period Styles **Units: 3**
- DRAMA 133 - Advanced Acting: Scene Study **Units: 3**

Approved Electives: (3 units)

- Non-major classes
- DRAMA 115 - Dramatic Arts Laboratory **Units: 1-2**
- DRAMA 179 - Playwrights' Theatre **Units: 1-2** and DRAMA 89/DRAMA 189 excluded (See note 2)

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)

- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. See advisor for details.

Advising Notes

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.

Students must meet with their advisor each semester for program approval.

CR/NC grading is not permitted in the theatre arts major.

Theatre Arts - Design/Technology Emphasis, B.A.

Bachelor of Arts Degree Requirements

The theatre arts major, dance major, and minors are designed to provide competencies in theatre and dance for students who intend to pursue study beyond the Bachelor of Arts degree, who are preparing for careers in teaching or for the professional performing arts. With the assistance of their advisors and with departmental approval, students follow a track of advanced courses specializing in the areas of Acting or Design/Technology or Theatre Education, or students may opt for advanced courses covering a broad range of study by selecting the General track. The Dance program offers intensive studies in dance performance, choreography, and theory.

Major Requirements (53 units)

Core: (24 units)

(See note 1)

- DRAMA 10 - The Art of Theatre **Units: 3**
- DRAMA 33 - Fundamentals of Acting **Units: 3**
- DRAMA 34 - Theatre Crafts **Units: 3**
- DRAMA 110 - Design for the Theatre **Units: 3**
- DRAMA 139 - Fundamentals of Play Direction **Units: 3**
- DRAMA 163 - Dramatic Literature **Units: 3**

- DRAMA 185 - History of the Theatre and Drama I **Units: 3**
- DRAMA 186 - History of the Theatre and Drama II **Units: 3**

Production: (8 units)

- DRAMA 115 - Dramatic Arts Laboratory **Units: 1-2**

Design/Technology Emphasis (21 units)

- DRAMA 180A - Scene Design for Theatre **Units: 3**
- DRAMA 182A - Stage and Television Lighting **Units: 3**
- DRAMA 134B - Advanced Theatre Craft **Units: 3**

Select 9 Units From the Following Courses:

- DRAMA 41 - Makeup for Theatre **Units: 3**
- DRAMA 134A - Advanced Theatre Craft **Units: 3**
- DRAMA 155 - Sound in the Theatre **Units: 3**
- DRAMA 157 - Theatre Graphics **Units: 3**
- DRAMA 180B - Scene Design for Theatre **Units: 3**
- DRAMA 181A - Costume History for Theatre **Units: 3**
- DRAMA 181B - Costume Design for Theatre **Units: 3**
- DRAMA 182B - Stage and Television Lighting **Units: 3**

Approved Electives: (3 units)

- Non-major classes
- DRAMA 115 - Dramatic Arts Laboratory **Units: 1-2**
- DRAMA 179 - Playwrights' Theatre **Units: 1-2**
- and DRAMA 89/DRAMA 189 excluded (See note 2)

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. See advisor for details.

Advising Notes

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.

Students must meet with their advisor each semester for program approval.

CR/NC grading is not permitted in the theatre arts major.

Theatre Arts - General Emphasis, B.A.

Bachelor of Arts Degree Requirements

The theatre arts major, dance major, and minors are designed to provide competencies in theatre and dance for students who intend to pursue study beyond the Bachelor of Arts degree, who are preparing for careers in teaching or for the professional performing arts. With the assistance of their advisors and with departmental approval, students follow a track of advanced courses specializing in the areas of Acting or Design/Technology or Theatre Education, or students may opt for advanced courses covering a broad range of study by selecting the General track. The Dance program offers intensive studies in dance performance, choreography, and theory.

Major Requirements (53 units)

Core: (24 units)

(See note 1)

- DRAMA 10 - The Art of Theatre **Units: 3**
- DRAMA 33 - Fundamentals of Acting **Units: 3**
- DRAMA 34 - Theatre Crafts **Units: 3**
- DRAMA 110 - Design for the Theatre **Units: 3**
- DRAMA 139 - Fundamentals of Play Direction **Units: 3**
- DRAMA 163 - Dramatic Literature **Units: 3**
- DRAMA 185 - History of the Theatre and Drama I **Units: 3**
- DRAMA 186 - History of the Theatre and Drama II **Units: 3**

Production: (8 units)

- DRAMA 115 - Dramatic Arts Laboratory **Units: 1-2**

General Emphasis (21 units)

Select 6 units from each of the following course groupings:

Group 1 (6units):

- DANCE 20 - Physical Theatre **Units: 3**
- DRAMA 30 - Voice and Speech for Performance **Units: 3**
- DRAMA 35 - Intermediate Acting **Units: 3**
- DRAMA 132 - Advanced Acting: Period Styles **Units: 3**
- DRAMA 133 - Advanced Acting: Scene Study **Units: 3**
- DRAMA 138B - Children's Theatre **Units: 3**

Group 2 (6 units):

- DRAMA 41 - Makeup for Theatre **Units: 3**
- DRAMA 134A - Advanced Theatre Craft **Units: 3**
- DRAMA 134B - Advanced Theatre Craft **Units: 3**
- DRAMA 136S - Puppetry **Units: 3**
- DRAMA 180A - Scene Design for Theatre **Units: 3**
- DRAMA 182A - Stage and Television Lighting **Units: 3**

Group 3 (6 units):

- DANCE 160S - Creative Movement for Children **Units: 3**
- DRAMA 131 - Fundamentals of Playwriting **Units: 3**
- DRAMA 137 - Creative Dramatics **Units: 3**
- DRAMA 138A - Children's Theatre **Units: 3**
- DRAMA 151 - Stage and Production Management **Units: 3**
- DRAMA 188T - Topics in Theatre Arts **Units: 1-6**

Approved Electives: (3 units)

- Non-major classes
- DRAMA 115 - Dramatic Arts Laboratory **Units: 1-2**
- DRAMA 179 - Playwrights' Theatre **Units: 1-2**
- and DRAMA 89/DRAMA 189 excluded (See note 2)

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. See advisor for details.

Advising Notes

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.

Students must meet with their advisor each semester for program approval.

CR/NC grading is not permitted in the theatre arts major.

Theatre Arts - Theatre Education Option, B.A.

Bachelor of Arts Degree

Requirements

The theatre arts major, dance major, and minors are designed to provide competencies in theatre and dance for students who intend to pursue study beyond the Bachelor of Arts degree, who are preparing for careers in teaching or for the professional performing arts. With the assistance of their advisors and with departmental approval, students follow a track of advanced courses specializing in the areas of Acting or Design/Technology or Theatre Education, or students may opt for advanced courses covering a broad range of study by selecting the General track. The Dance program offers intensive studies in dance performance, choreography, and theory.

Major Requirements (59 units)

Core: (24 units)

(See note 1)

- DRAMA 10 - The Art of Theatre **Units: 3**
- DRAMA 33 - Fundamentals of Acting **Units: 3**
- DRAMA 34 - Theatre Crafts **Units: 3**
- DRAMA 110 - Design for the Theatre **Units: 3**
- DRAMA 139 - Fundamentals of Play Direction **Units: 3**
- DRAMA 163 - Dramatic Literature **Units: 3**
- DRAMA 185 - History of the Theatre and Drama I **Units: 3**
- DRAMA 186 - History of the Theatre and Drama II **Units: 3**

Production: (8 units)

- DRAMA 115 - Dramatic Arts Laboratory **Units: 1-2**

Theatre Education Emphasis (27 units)

- DRAMA 137 - Creative Dramatics **Units: 3**
- DRAMA 138A - Children's Theatre **Units: 3**

Group 1: (3 units)

Select 3 units from the following course grouping:

- DRAMA 136S - Puppetry **Units: 3**
- DRAMA 138B - Children's Theatre **Units: 3**
- DANCE 160S - Creative Movement for Children **Units: 3**

Group 2: (9 units)

Select 9 units from the following course grouping:

- DRAMA 41 - Makeup for Theatre **Units: 3**
- DRAMA 134A - Advanced Theatre Craft **Units: 3**
- DRAMA 134B - Advanced Theatre Craft **Units: 3**
- DRAMA 155 - Sound in the Theatre **Units: 3**
- DRAMA 180A - Scene Design for Theatre **Units: 3**
- DRAMA 180B - Scene Design for Theatre **Units: 3**
- DRAMA 181A - Costume History for Theatre **Units: 3**
- DRAMA 181B - Costume Design for Theatre **Units: 3**
- DRAMA 182A - Stage and Television Lighting **Units: 3**
- DRAMA 182B - Stage and Television Lighting **Units: 3**

Group 3: (3 units)

Select 3 units from the following course grouping:

- DRAMA 108 - Latinx Theatre **Units: 3**
- DRAMA 187 - African-American Theatre **Units: 3**
- DRAMA 188T - Topics in Theatre Arts **Units: 1-6** with advisor consent

Approved Electives: (6 units)

- DRAMA 115 - Dramatic Arts Laboratory **Units: 1-2**
- DRAMA 179 - Playwrights' Theatre **Units: 1-2**
- and DRAMA 89/DRAMA 189 excluded (See note 2)

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

* Sufficient elective units to meet required total units (varies) (See **Degree Requirements**), may be used toward a double major or minor

* G.E. and MI courses can be double-counted with major requirements. See advisor for details.

Advising Notes

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.

Students must meet with their advisor each semester for program approval.

CR/NC grading is not permitted in the theatre arts major.

Viticulture, B.S.

Bachelor of Science Degree Requirements Viticulture Major

Major Requirements (66 units)

- BIOL 161 - Plant Physiology **Units: 4**
OR
- PLANT 100 - Aspects of Crop Productivity **Units: 3**
- CHEM 8 - Elementary Organic Chemistry **Units: 3**
OR
- CHEM 3B - Introductory Organic and Biochemistry **Units: 3**
- CHEM 150 - General Biochemistry **Units: 3**
OR
- ENOL 168 - Introduction to Vine, Grape and Yeast Biochemistry **Units: 3**
- ENOL 15 - Introduction to Enology **Units: 3**
- MEAG 3 - Agricultural Tractors **Units: 3**
OR

- MEAG 20 - Agricultural Machinery and Equipment **Units: 3**
OR
- MEAG 120 - Advanced Farm Machinery **Units: 3**
- PLANT 99 - Introduction to Biometrics **Units: 3**
OR
- VIT 100 - Viticulture and Enology Research Methods **Units: 3**
- PLANT 101 - Crop Nutrition **Units: 3**
- PLANT 160 - Weed Science **Units: 3**
- PLANT 162 - Economic Entomology **Units: 3**
OR
- BIOL 132 - General Entomology **Units: 3**
- PLANT 172 - Soils **Units: 3**
- VIT 15 - Introduction to Viticulture **Units: 3**
- VIT 101 - General Viticulture I **Units: 3**
- VIT 102 - General Viticulture II **Units: 3**
- VIT 103 - Table Grapes and Raisins: Production and Post-Harvest **Units: 3**
- VIT 106 - Winegrape Production **Units: 2**
- VIT 160 - Mechanized, Automated and Digital Viticulture **Units: 3**
- VIT 165 - Ampelography Grape Genetics **Units: 3**
- VIT 166 - Management of Grape Diseases, Disorders, and Pests **Units: 3**
- VIT 194I - Grape and Wine Industry Internship **Units: 2-4** (for 4 units)
- VIT 199 - Viticulture Seminar **Units: 1**

Select 8 Units in Consultation with Faculty Advisor From the Following Courses:

- BIOL 125 - Plant Taxonomy **Units: 4**
- ENOL 45 - Wine Evaluation Techniques **Units: 3**
- ENOL 163 - Fermentation **Units: 3**
- ENOL 170E - Wine Business **Units: 3**
- ENOL 175 - Winery Management **Units: 3**
- IT 109 - Irrigation Water Delivery Systems **Units: 3**
- IT 118 - Production Operations **Units: 3**
- IT 186 - Applied Spatial Technology **Units: 3**
- PLANT 110W - Dimensions in Agriculture **Units: 3**
- PLANT 161 - Plant Pathology **Units: 3**
- PLANT 163 - Integrated Pest Management **Units: 3**
- PLANT 164 - Plant Nematology **Units: 3**
- PLANT 165 - Pesticides **Units: 3**
- PLANT 168 - Biological Control **Units: 3**
- PLANT 172L - Soils Lab **Units: 1**
- SPAN 1A - Elementary Spanish **Units: 4**
- VIT 167 - Vineyard Ecology and Organic Production **Units: 3**
- VIT 168 - Vineyard Floor Vegetation Management **Units: 3**

- VIT 190 - Independent Study **Units: 1-3**
- VIT 196 - Viticulture Projects **Units: 2**

Additional Requirements (13 units)

- AGBS 1 - Introductory Agricultural Economics **Units: 3** (Area D2)
- BIOL 11 - Plant Biology **Units: 3** (Area B2)
- CHEM 3A - Introductory General Chemistry **Units: 4** (Area B1)
- MATH 11 - Elementary Statistics **Units: 3** (Area B4)

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI) - *Viticulture majors are exempt from the MI requirement*
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. These courses include CHEM 3A (Area B1), BIOL 11 (Area B2), MATH 11 (Area B4), and AGBS 1 (Area D2). See advisor for details.

Advising Notes

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 advisor.

Students meet with their academic advisors prior to registration each fall semester.

General Education courses designated as required by the department are prerequisites to many courses in the program of study.

CR/NC grading is not permitted for courses included in the major except for VIT 194I.

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.

The upper-division writing skills requirement can be met by taking a 3- to 4-unit W course (e.g., PLANT 110W) and pass a grade of C or higher.

Viticulture students are encouraged to become certified crop scientists/specialists and pest control advisors (PCAs). Students should consult their faculty advisor for additional requirements for certification.

All courses listed under the major and additional requirements require a grade of C or better.

Women's, Gender, and Sexuality Studies, B.A.

Bachelor of Arts Degree Requirements

Major Requirements (36 units)

- WGSS 10 - Introduction to Women's Studies **Units: 3**
- WGSS 103 - History of Feminisms **Units: 3**
- WGSS 143 - Feminist Theory **Units: 3**
- WGSS 153 - Feminist Research Methodologies **Units: 3**
- WGSS 172 - Transnational Feminisms: Histories, Foundations, and Debates **Units: 3**
- WGSS 126 - Women and Violence: Public Policy and the Law **Units: 3**
- OR
- CRIM 126 - Women and Violence: Public Policy and the Law **Units: 3**

Approved Electives (18 units)

Cluster 1, Intersectional Feminisms

- WGSS 11 - Introduction to LGBTQ+ Studies **Units: 3**
- WGSS 137 - African American Women **Units: 3**
- OR
- AFRS 137 - African American Women **Units: 3**
- WGSS 138 - Asian American Women **Units: 3**
- OR
- ASAM 138 - Asian American Women **Units: 3**
- WGSS 139 - Chicana Women in a Changing Society **Units: 3**
- OR
- CLAS 162 - Chicana Women in a Changing Society **Units: 3**
- WGSS 151T - Topics in LGBTQ+ Studies **Units: 1-3**

- WGSS 178 - Lesbian & Gay Literature **Units: 4**
OR
- ENGL 178 - Lesbian & Gay Literature **Units: 4**

Cluster 2, Advanced Topics in Women's, Gender, & Sexuality Studies

- WGSS 107 - Women in US Politics **Units: 3**
OR
- PLSI 107 - Women in US Politics **Units: 3**
- WGSS 114 - Marriage and Family Politics **Units: 3**
- PH 126 - Hazardous Materials Management **Units: 3**
OR
- WGSS 127 - Female Sexuality **Units: 3**
- WGSS 132 - Women and Work **Units: 3**
OR
- SOC 132 - Women and Work **Units: 3**
- WGSS 136T - Topics in International Women's Studies **Units: 3**
- WGSS 140 - Politics of Latina Health and Size **Units: 3**
- WGSS 160 - Feminist Issues in Counseling **Units: 3**

Other Degree Requirements

In addition to the major program requirements, every student must also complete the University's baccalaureate degree requirements such as:

- American Government and Institutions (PLSI 2)
- General Education Requirements (48 units)
- Multicultural and International (MI)
- Upper-division Writing
- Sufficient Elective Units to Meet Required Total Units (varies); it is recommended that units in this area be utilized to complete a second major or minor.

A full description of the University's graduation requirements can be found in the Baccalaureate Degree Requirements.

Total Units: 120*

*General Education, MI, and Upper-division Writing courses can be double counted with major requirements. See advisor for details.

Advising Notes

The 18 units of electives must be selected from a list of approved courses available in the Women's, Gender, & Sexuality Studies Program. At least one course must be selected from each of the clusters listed under approved electives in the Women's, Gender, & Sexuality Studies Major.

No more than 3 units may be selected from the 1-unit Saturday courses: WGSS 108, WGSS 109, WGSS 112, WGSS 116.

CR/NC grading is not permitted in the Women's, Gender, & Sexuality Studies major, except for courses offered only under CR/NC grading.

Students whose primary major is Women's, Gender, & Sexuality Studies should be aware that any WGSS courses that are General Education courses may fulfill major and minor elective and/or cluster requirements where appropriate.

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, Gender, & Sexuality Studies (WGSS). Many students choose WGSS as a second major to complement their first, or primary, major. Double majors say their first major defines the field in which they work and WGSS gives them a special focus within that field. WGSS 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 as WGSS as a double major should speak to an advisor in the WGSS program department as soon as possible.

Master

Agricultural Science, M.S.

Master of Science Degree Requirements

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:

BIOL 1A or BIOL 10 or BIOL 11 or BIOL 12 or BIOL 20;
CHEM 1A or CHEM 3A;
undergraduate level statistics course;
agricultural education and communication students are required to take AGED 50, AGED 135, AGED 150 or AGED 66, AGED 166;
animal science students are required to take CHEM 8 or CHEM 128A/CHEM 128B, CHEM 129A, CHEM 150 or CHEM 155A; two animal science production courses; and three of the following courses: ASCI 101, ASCI 125, ASCI 135, ASCI 145, ASCI 155, ASCI 165, ASCI 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; 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, 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 - Biometrics in Agriculture **Units: 3**
OR
- BIOL 274 - Biostatistics & Experimental Design **Units: 3**
- AGRI 220 - Research Methodology and Communications **Units: 3**
OR
- ERE 220 - Research in Education **Units: 3**
- ASCI 229 - Seminar **Units: 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 - Organization, Administration, and Supervision of Agricultural Education **Units: 3**
- AGED 189 - Education in Agricultural Mechanics **Units: 3**
- AGRI 201 - Agricultural Laboratory Techniques **Units: 3**
- AGRI 280 - Seminar in Agricultural Education **Units: 1-3**
- AGRI 281 - Problems in Agricultural Education **Units: 1-3**
- ASCI 240T - Topics in Animal Science **Units: 3**
- ASCI 241 - Endocrine and Reproductive Physiology **Units: 3**
- ASCI 246 - Ruminant Nutrition **Units: 3**
- ASCI 247 - Concepts in Non-Ruminant Nutrition **Units: 3**
- ASCI 248 - Meat Science and Muscle Biology **Units: 3**
- ASCI 290 - Independent Study **Units: 1-3**
- CHEM 155B - Physiological Chemistry and Metabolism **Units: 3**
- CHEM 156 - Biochemical Laboratory Techniques **Units: 3**
Courses in agriculture, biology, business, chemistry, education, food science, or other relevant courses.

Culminating Experience (0-4 units)

- AGRI 298 - Project **Units: 2-4**
OR
- ASCI 299 - Thesis **Units: 2-4**
OR
- Comprehensive Exam **Units: 0**

Total Minimum Requirements: 30 Units

Graduate Advising Notes

Several of the 200-level and approved elective courses have prerequisites other than courses listed as admission requirements.

Students must request specific information concerning the program from the department office or graduate coordinator.

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.

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.

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.

At least 9 units of the student's specialization courses must be from agriculture, agricultural education and communication, or animal science.

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.

See Division of Graduate Studies in this catalog for university requirements.

program. Students must apply for admission to the M.A. in Applied Behavior Analysis during the graduate application process.

This degree program, particularly the practicum, emphasizes behavior analytic applications with typically developing and developmentally disabled children and adults and in-parent, caregiver, and staff training.

Course Requirements for the M.A. in Applied Behavior Analysis

- PSYCH 221 - Advanced Learning and Behavior **Units: 4**
- PSYCH 222 - Legal, Ethical & Professional Issues in Applied Behavior Analysis **Units: 3**
- PSYCH 223 - Verbal Behavior **Units: 4**
- PSYCH 224 - Applied Behavior Analysis for Organizations and Systems **Units: 4**
- PSYCH 235 - Philosophy in Applied Behavior Analysis **Units: 3**
- PSYCH 244A - Measurement, Research Methods & Statistics **Units: 4**
- PSYCH 245 - Research Methods in Behavior Analysis **Units: 4**
- PSYCH 268 - Practicum in Applied Behavior Analysis **Units: 1**
- PSYCH 271 - Behavioral Intervention and Consultation **Units: 3**
- PSYCH 288 - Advanced Applied Behavior Analysis **Units: 4**
- PSYCH 289 - Functional Assessment and Intervention **Units: 4**
- PSYCH 299 - Thesis **Units: 3-6**

Total: 44 Units

Graduate Programs

The Master of Arts in Psychology, Master of Arts in Applied Behavior Analysis, 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 all master's degrees 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 Master of Arts in Psychology, Master of Arts in Applied Behavior Analysis, and Educational Specialist degrees 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. All students must submit applications to both the Division of Graduate Admissions and the Department of Psychology.

Applied Behavior Analysis, M.A.

Master of Arts Degree in Applied Behavior Analysis - Requirements

The Master of Arts degree in Applied Behavior Analysis is a two-year, full-time graduate program 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 44 units of coursework, including 3 thesis units and 4 practicum units. Students are also able to acquire the required number of supervised experience hours over the two years of the

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, the M.A. in Applied Behavior Analysis 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. Applicants lacking 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 244 and pass the Psychology Department Graduate Writing Requirement and the Psychology Department Statistical Proficiency Exam. 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 advisor, a coherent program is prepared and submitted, directed toward the achievement of the student's goal in graduate study.

In compliance with Federal Requirements for Posting Licensure and Certification Eligibility, please see the CSU Chancellor's Office calstate.edu website.

Art, M.A.

Master of Arts Requirements

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) **Units:** 21-30
- Approved courses in art or related fields in the 100- or 200-series **Units:** 0-9

Total: 30 Units

Specific Requirements. ART 230 or ART 260 (3 units) and ART 298 or ART 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 ART 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.

Athletic Training, M.S.

The Master of Science in Athletic Training is designed for students with professional goals in athletic training. California State University, Fresno is currently seeking accreditation for our new Athletic Training program and is not accredited by the Commission on Accreditation of Athletic Training Education (CAATE). The institution will be submitting a self-study to begin the accreditation process on July 1, 2021. Submission of the self-study and completion of a site visit does not guarantee that the program will become accredited. Students that graduate from the program prior to accreditation WILL NOT be eligible to sit for the credentialing examination for athletic trainers and will not be eligible for licensure in most states. The program has high academic and performance standards that include completion of a two-year competency-based clinical education program.

Degree Requirements

Didactic Coursework (36 units)

- AT 202 - Foundations of Athletic Training **Units: 1**
- AT 204 - Documentation and Medical Terminology **Units: 1**
- AT 212 - Anatomy, Evaluation, and Rehabilitation of the Lower Extremity **Units: 8**
- AT 216 - Research Methods in Athletic Training I **Units: 2**
- AT 222 - Anatomy, Evaluation, and Rehabilitation of the Upper Extremity **Units: 6**
- AT 224 - General Medical Conditions and Pharmacology **Units: 2**
- AT 226 - Research Methods in Athletic Training II **Units: 2**
- AT 228 - Policy and Procedures in Athletic Training **Units: 2**
- AT 232 - Anatomy, Evaluation, and Treatment of the Spine **Units: 3**
- AT 234 - Immediate and Emergency Care **Units: 2**
- AT 238 - Board of Certification Exam Preparation **Units: 1**
- AT 242 - Prevention and Wellness **Units: 2**
- AT 244 - Psychological Aspects of Injury and Rehabilitation in Athletic Training **Units: 2**
- AT 248 - Professional Practice in Athletic Training **Units: 2**

Clinical Practica (18 units)

- AT 251 - Clinical Practicum I **Units: 3**
- AT 252 - Clinical Practicum II **Units: 3**
- AT 253 - Clinical Practicum III **Units: 3**
- AT 254 - Clinical Practicum IV **Units: 6**

Culminating Experiences (6 units)

(select one course)

- Comprehensive Examination, AT 296 and AT 297
- AT 298 - Project **Units: 3-6**
- AT 299 - Thesis **Units: 3-6**

Total Units: 60 Units

Advancement to Candidacy Requirement

Students usually advance to candidacy in the fall semester of their second year of the MSA T. Students must meet the following criteria:

Classified graduate student standing.

A minimum GPA of 3.0 on all coursework in the MS in Athletic Training degree, with no grade below C.

Successful completion of the qualifying exam given at the end of the spring semester of the first year. The qualifying exam consists of a computerized exam containing 175 questions on content learned during the first year in the program.

Demonstrated graduate-level writing proficiency (as assessed by the Critically Appraised Topic paper in AT 226 - Research Methods in Athletic Training II).

Culminating Experience Requirement

The student must select an appropriate culminating experience within the selected course of study. The following culminating experiences are offered. NOTE: Students must be Advanced to Candidacy prior to enrolling in AT 298 (Project) or AT 299 (Thesis).

Comprehensive Exam, plus AT 296 and AT 297
Project
Thesis

Students who choose to complete a thesis or project must do so under the guidance of a thesis chair or project advisor who agrees to supervise the work.

Admission Requirements

Admission to the program requires the student to: (a) apply for University graduate student status; (b) submit an application through ATCAS; (c) have an undergraduate GPA of at least 3.0; (d) participate in an interview; (e) document 100 hours of observation with a Certified Athletic Trainer; and (f) earn a C or better and 3.0 GPA in the following prerequisite courses:

Biology with lab (BIOL 10 or BIOL 1A)

Chemistry with lab (CHEM 3A)

Physics with lab (PHYS 2A)

Two semesters of Anatomy and Physiology with Lab (BIOL 67A and BIOL 67B)

General Psychology (PSYCH 10) or Sport Psychology (KINES 33)

Biomechanics (KINES 116)

Exercise Physiology (KINES 118)

Nutrition (NUTR 53) or Fitness and Wellness (KINES 163)

Statistics (PH 92 or MATH 11)

Care and Prevention of Athletic Injuries (KINES 38)

First Aid & CPR (KINES 48 , PH 48 , or PH 49) or current emergency cardiac care (ECC) card*

* ECC certification must include all of the following: Adult & Pediatric CPR, AED, 2nd Rescuer CPR, Airway Obstruction, Barrier Devices (e.g., pocket mask, bag valve mask).

Biology, M.S.

The Master of Science in Biology degree programs offers state-of-the-art educational experiences that will prepare students to make valuable contributions to society where knowledge, and understanding of biological organisms, and processes are required (e.g. biodiversity, conservation and the environment, health sciences and biotechnology). The program also prepares students to succeed in careers in education (teaching biological science disciplines at secondary schools and community colleges) and to pursue further study to obtain a Ph.D. or other professional degrees. Students learn laboratory and/or field techniques and will conduct independent research within the biological sciences. They also acquire the skills necessary for communicating biological information to professional scientific peers as well as to the lay public. Biology Faculty research areas cover (i) environmental, evolutionary & ecological systems, (ii) physiological, behavioral & development systems, (iii) molecular, cellular & genetic systems, and (iv) STEM education.

Application Requirements

A bachelor's degree in biology (or the equivalent) is required.

Applicants must have official transcript(s) sent directly to the Division of Research and Graduate Studies.

Attn: Graduate Admissions

5150 N. Maple Ave M/S JA57

Fresno, CA 93740

Electronic transcripts: imaging@csufresno.edu

2.5 cumulative GPA or 2.5 GPA in the last 60 units.

Applicants must submit a CV that highlights educational background, research experience/interest, teaching experience/potential, funding/awards.

A personal statement (250+ words) of why you want to pursue the Biology MS at Fresno State. The statement should include your choice of research lab, your field of research interest, and your proficiency/preparation for this field of study.

A diversity statement (250+ words) about how your personal background and life experiences inform your decision to pursue a graduate degree, and will contribute to the social, intellectual, or cultural diversity within our campus community and your chosen biological field.

You must secure your thesis advisor prior to acceptance into the MS program of Biology. Your thesis advisor shall be a faculty member in the Department of Biology or a member of Biology MS faculty group.

Two letters of recommendation (ideally from academic references) are required. Applicants must arrange two letters of recommendation to be directly sent from references to the Graduate Coordinator via email.

International applicants. International students have additional admission requirements such as English language proficiency and

financial documents. For more information, please contact the international office or visit the website (<https://cge.fresnostate.edu/international/future/graduate.html>).

Conditional acceptance. Conditionally accepted students must earn "classified standing" as soon as possible by completing the prerequisite coursework. Prerequisite coursework may not be included in the 30-unit master's program.

Master of Science Degree Requirements

Coursework. The Master of Science degree requires a **minimum of 30 units**. The undergraduate courses used toward fully classified status may not be used toward the master's degree. Students should have an average GPA of 3.0 or better for the online graduation application.

Required Courses (11 units):

- BIOL 250 - Scientific Writing **Units: 3**
- BIOL 251 - Experimental Design for Biologists **Units: 3**
OR
- BIOL 274 - Biostatistics & Experimental Design **Units: 3** or other approved experimental design course
- BIOL 273 - Applied Bioethics **Units: 1**

Any Combination of Two Seminar Courses

- BIOL 281 - Seminar in Biological Science **Units: 1-2**
- BIOL 248 - Seminar in Molecular Biology and Biotechnology **Units: 1-2**
- Additional seminars as approved by department
- BIOL 280 - Biology Colloquium **Units: 1 (2 units)**

Thesis (4 units):

- BIOL 299 - Thesis **Units: 2-4**

Approved Electives (15 units):

100- or 200-level Biology or closely-related courses with the approval of the thesis advisor and committee. At least 21 units of the total must be taken in 200-level courses in biology or closely related courses. 100-level courses are allowed up to 9 units. Any combinations of BIOL 290 and BIOL 295 are counted toward graduation up to 6 units.

Graduate Writing Requirement (GWR). Passing the GWR is a prerequisite for the advancement to candidacy petition. To pass the writing requirement, students must submit a formal research proposal relevant to thesis work to thesis committee members and receive at least a score of 3 out of 5 in each of the four evaluation categories from all members. The GWR scoring rubric is available from the department website

(<https://csm.fresnostate.edu/biology/msinbiology/index.html>). For more information, please contact the graduate coordinator.

Advancement to candidacy. Advancement to candidacy must be achieved at least one semester prior to the term in which you register for thesis (BIOL 299) and graduation. At least 9 units are needed before advancement to candidacy (the filing semester is also counted as "before advancement"). You also need to pass the GWR prior to the petition. The advancement to candidacy package, which is composed of the completed committee assignment form, your thesis proposal (GWR), GWR scores, and completed petition of advancement to candidacy form (available online from the Division of Research and Graduate Studies), will be distributed to Biology faculty for evaluation/approval before submission to the Division of Research and Graduate Studies. For more information, please contact the graduate coordinator.

Penultimate semester committee meeting. All graduate students must complete a mandatory committee meeting in at least the semester prior to the intended semester of graduation, present a PowerPoint of research hypotheses/results/data interpretation, and secure approval from the thesis committee for thesis submission. Policy and approval form are available from the department website (<https://csm.fresnostate.edu/biology/msinbiology/index.html>). For more information, please contact the graduate coordinator.

Thesis and research work. Your thesis work should start when you enter the program as your thesis research takes a longtime and often does not go as you planned. A departmental form is required for enrolling into BIOL 299 (Thesis) and available in the Biology office. Be aware that your thesis must be completed and approved online by each of your thesis committee members before online thesis submission, and that the thesis submission deadline is not the end of the semester, but about a month earlier and set by the Division of Research and Graduate Studies each academic year. The final (thesis) semester in which you enroll into BIOL 299 should be ideally spent mostly on thesis writing.

Exit seminar. Seminar should be delivered before the final instruction day for the semester. Thesis committee chair must be present, along with other committee members (or designees).

Biotechnology, M.Bt.

Master of Biotechnology Degree 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 State equivalent courses are indicated in parentheses.

Prerequisite courses are as follows:

General Genetics (BIOL 102, BIOL 103) Microbiology with Lab - BIOL 120) Biochemistry with Lab (CHEM 150/CHEM 155A and CHEM 156) Immunology with Lab (BIOL 157 and BIOL 157L) Analytical Chemistry (CHEM 102/CHEM 105) Statistics (MATH 101)

I. Core Curriculum (23 units)

- BIOL 241A - Molecular Biology I **Units: 3**
- BIOL 241B - Molecular Biology II **Units: 3**
- CHEM 241A - Molecular Biology I **Units: 3**
- CHEM 241B - Molecular Biology II **Units: 3**
- BIOL 248 - Seminar in Molecular Biology and Biotechnology **Units: 1-2 ***
- CHEM 248 - Seminar in Molecular Biology and Biotechnology **Units: 1-2 ***
- BIOL 250 - Scientific Writing **Units: 3 ***
OR
- CHEM 260 - Advanced Research Techniques **Units: 3 ***
- MBA 270 - Seminar in Business Ventures **Units: 3**
- MBA 272 - Seminar in New Venture Management **Units: 3**
OR
- MBA 273 - New Venture Creation **Units: 3**
- BIOTC 275 - Biotechnology Industrial Experience **Units: 3**
- BIOTC 298 - Biotechnology Culminating Project **Units: 4**
OR
- BIOTC 299 - Thesis **Units: 4**

II. Electives (9 units)

Minimum of three courses in separate categories A-L; only one may be undergraduate.

- BIOL 242 - Techniques in Protein Purification and Analysis **Units: 3**
- CHEM 242 - Techniques in Protein Purification and Analysis **Units: 3**
- BIOL 243 - Nucleic Acid Technology Lab **Units: 3**
- CHEM 243 - Nucleic Acid Technology Lab **Units: 3**

- BIOL 244 - Cell Culture Techniques **Units: 3**
- CHEM 244 - Cell Culture Techniques **Units: 3**
- BIOL 245 - Industrial Biotechnology **Units: 3**
- AGRI 200 - Biometrics in Agriculture **Units: 3**
OR
- BIOL 274 - Biostatistics & Experimental Design **Units: 3**
- PLANT 108 - Micropropagation **Units: 3**
- CSCI 101 - Computational Foundations for Bioinformatics **Units: 3**
- CHEM 106 - Analytical Measurements Laboratory **Units: 4**
- FSC 120 - Quality Assurance in the Food and Dairy Industries **Units: 3**
- FSC 178 - Food Laws, Regulations, Inspection, and Grading **Units: 3**
- MBA 272 - Seminar in New Venture Management **Units: 3**
OR
- MBA 273 - New Venture Creation **Units: 3** **
- PHIL 123 - Bioethics **Units: 3**

Total: 32 Units

* The Graduate Writing Requirement (GWR) is completed concurrently or after enrollment of BIOL 248/CHEM 248 and BIOL 250 or CHEM 260 (writing course). Consult advisor for details.

** Only the course not taken to fulfill Core Curriculum category E is allowed for credit.

Business Administration, M.B.A.

Master of Business Administration Requirements

Admission

To view the admission requirements for the Traditional M.B.A. program, please visit: craig.fresnostate.edu/grad-business/mba.html

To view the admission requirements for the M.B.A. for Executives program, please visit: craig.fresnostate.edu/grad-business/emba/index.html

Program Requirements

The M.B.A. is awarded to students upon completion of the requirements listed below. The following groups of courses are generally completed in sequence.

Group I (3-15 units)

The following five courses are required of non-business majors, business majors from programs that are not AACSB-accredited, business majors from international business schools (AACSB) or students who graduated from an AACSB-accredited program more than seven years ago:

- MBA 200 - Managerial Economics **Units: 3**
- MBA 201 - Accounting and Information Systems **Units: 3**
- MBA 203 - Methods of Decision Sciences **Units: 3**
- MBA 204 - Global Environment of Business **Units: 3**
- MBA 205 - Production and Operations Management **Units: 3**

Some or all of the Group I requirements may be waived based on an evaluation of the student's previous coursework. Equivalent knowledge may be demonstrated through examinations offered two times each year.

Group II (18 units)

These courses develop the M.B.A. candidate's core managerial skills:

- MBA 210 - Leadership and Organizational Behavior **Units: 3**
*
- MBA 211 - Management Information Systems **Units: 3**
- MBA 212 - Financial Management **Units: 3**
- MBA 213 - Managerial Accounting **Units: 3**
- MBA 214 - Marketing Management **Units: 3**
- MBA 215 - Regulatory and Ethical Environment of Business **Units: 3**

*The University's graduate-level writing proficiency requirement is fulfilled by MBA 210

Group III (12 units)

These elective courses allow the student to integrate their knowledge from Group I and II. Students may take any 12 units from:

- MBA 230 - Seminar in Advanced Financial Management **Units: 3**
- MBA 231 - Seminar in International Finance **Units: 3**
- MBA 232 - Seminar in Investments and Portfolio Management **Units: 3**
- MBA 233 - Seminar in Management of Financial Institutions **Units: 3**
- MBA 234 - Seminar in Options, Futures, and Other Derivatives **Units: 3**
- MBA 235 - Urban Economics with UrbanPlan **Units: 3**
- MBA 240 - Managing Human Capital-Applications of Human Resource Management Theory to Practice **Units: 3**
- MBA 241 - Seminar in Comparative Human Resource and Industrial Relations Systems **Units: 3**

- MBA 242 - Seminar in Human Resource Planning, Recruitment, and Selection **Units: 3**
- MBA 243 - Seminar in Training, Compensation, and Performance Appraisal **Units: 3**
- MBA 244 - Seminar in Applications of Technology in Human Resource Management **Units: 1-2**
- MBA 245 - Seminar in Negotiation and Conflict Resolution Topics **Units: 3**
- MBA 246 - Seminar in Workforce Issues **Units: 1-2**
- MBA 247 - The Context of Human Resource Management **Units: 1-2**
- MBA 250 - Seminar in End User Computing **Units: 3**
- MBA 251 - Seminar in Information Systems in a Global Environment **Units: 3**
- MBA 252 - Seminar in Information Systems Management **Units: 3**
- MBA 253 - Seminar in Information Technology **Units: 3**
- MBA 260 - Seminar in Market Research and Analysis **Units: 3**
- MBA 261 - Seminar in Global Marketing and E-Business **Units: 3**
- MBA 262 - Strategic Market Planning **Units: 3**
- MBA 263 - Seminar in X Marketing **Units: 3**
- MBA 264 - E-Marketing **Units: 3**
- MBA 270 - Seminar in Business Ventures **Units: 3**
- MBA 272 - Seminar in New Venture Management **Units: 3**
- MBA 273 - New Venture Creation **Units: 3**
- MBA 274 - New Venture Launch **Units: 3**
- MBA 281 - International Business **Units: 3**
- MBA 289T - Seminar in Business Topics **Units: 1-3**
- MBA 290 - Independent Study **Units: 1-3**
- MBA 292 - Readings in Business **Units: 2-3**
- MBA 295I - Internship **Units: 1-3**
- or other approved electives

Note: Students may choose to take some of their Group III courses through the Study Abroad Program. This requires approval from the Graduate Business Programs office.

Business Policy and Strategy (3 units)

This course is taken upon completion of the Group II courses. Students are also allowed to take Group II courses concurrently with:

- MBA 279 - Seminar in Business Policy and Strategy **Units: 3**

Culminating Experience (3 units)

For their final M.B.A. project, students must complete:

- MBA 298 - Management Project **Units: 3**
OR

- MBA 299 - Thesis **Units: 3**

Chemistry, M.S.

Master of Science Degree Requirements

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.

The degree program course requirements are rigorous, and the approach to an M.S. curriculum is a demanding one. However, as the quality of training in all of chemistry's subdivisions remains high, we perceive this diversity as the primary strength of the program.

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.

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:

successful completion of CHEM 260 with a grade of B or better, and 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 in accordance to requirements listed below. Other courses may be specified after examination of the student's record and performance on the departmental diagnostic examinations.

Course Requirements

Core graduate curriculum (11 units):

- CHEM 260 - Advanced Research Techniques **Units: 3**
- CHEM 280 - Seminar in Chemistry **Units: 1**
- CHEM 295 - Research **Units: 2**
- CHEM 299 - Thesis **Units: 5**

Additional Chemistry Courses, 3 Units Each From 4 of 5 of the Following Groupings (12 units):

- CHEM 212 - Biophysical Chemistry **Units: 1-2**
 - CHEM 215 - Quantum Chemistry **Units: 3**
 - CHEM 220 - Theoretical Inorganic Chemistry **Units: 3**
 - CHEM 222 - Advances in Inorganic Chemistry **Units: 3**
 - CHEM 225 - Separation Methods in Chemistry **Units: 1-3**
 - CHEM 226 - Electrochemistry **Units: 1-3**
 - CHEM 227 - Analytical Spectroscopy **Units: 1-3**
 - CHEM 230 - Advanced Organic Chemistry **Units: 3**
 - CHEM 235 - Physical Organic Chemistry **Units: 3**
 - CHEM 241A - Molecular Biology I **Units: 3**
 - CHEM 242 - Techniques in Protein Purification and Analysis **Units: 3**
 - CHEM 240T - Topics in Advanced Chemistry **Units: 1-3**
- courses offered in these specific areas (contact graduate coordinator for details).

Approved Electives in Chemistry or Related Fields (7 units)

Total: 30 Units

Civil Engineering, M.S.

Master of Science in Civil Engineering Requirements

(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. Graduate Record Examination (GRE) scores must be received by the application deadline for International Student applicants and within 30 days after the application deadline for Domestic Student applicants. The minimum score considered passing on the quantitative section is 146 (new scale) / 550 (old scale). 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.

Continuation in the Program. Students 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 their graduate adviser, but such change should be made before advancing to candidacy. The student, together with his or her new graduate adviser, completes a contract program of study within the first two semesters of changing advisors. The changing of advisors and the contract program of study must be approved by the department's Graduate Program Coordinator. Any disputes shall be resolved by the department's Graduate Committee.

A student must pass CE 210 with a grade of B or higher and satisfactorily complete a written examination 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. If a passing grade on the writing component is not achieved, students who have a passing grade on the sum total of other course requirements will receive an "Incomplete" and must pursue the completion of the writing requirements independently from the course and in collaboration with his/ her graduate advisor. Students have two semesters to resolve incomplete work and avoid a failing grade in the course, which would likely lead to disqualification from the graduate program based on low GPA.

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 Research and Graduate Studies, Administrative Academic Probation, Academic Disqualification.

The M.S. in Civil Engineering requires the completion of 30 units following one of three programs of study.

Plan A (Thesis)

- 200-series engineering courses, including CE 210 (see note 1) **Units: 12-24 units**
- 100-series CE or GME technical area courses (see notes 2 and 5) **Units: 0-6**
- Courses outside the department (see notes 3, 4, and 5) **Units: 0-6**
- CE 299 - Thesis **Units: 2-6**

Total: 30 Units

Plan B (Project)

- 200-series engineering courses, including CE 210 **Units: 15-27**
- 100-series CE or GME technical area courses (see notes 2 and 5) **Units: 0-6**
- Courses outside the department (see notes 3, 4, and 5) **Units: 0-6**
- CE 298 - Project **Units: 3**

Total: 30 Units

Plan C (Comprehensive Exam)

- 200-series engineering courses, including CE 210 **Units: 18-30**
- 100-series CE or GME technical area courses (see notes 2 and 5) **Units: 0-6**
- Courses outside the department (see notes 3, 4, and 5) **Units: 0-6**
- Comprehensive Final Examination **Units: 0**

Total: 30 Units

Advising Notes

CE 210 should be taken during the semester following completion of 6 units of graduate level coursework.

Select from CE 125, CE 131, CE 134, CE 136, CE 137, CE 174, CE 176, CE 177, CE 151, CE 153, CE 155, CE 191T, GME 125, GME 126, GME 135, GME 145, GME 152, GME 153, GME 161, GME 174, and GME 175

100-series and 200-series courses outside civil and geomatics engineering are in disciplines best suited to the student's career preparation, as approved by the program adviser and graduate program coordinator, and including but not limited to all engineering disciplines, construction management, mathematics, statistics, management, business, geology, physics, chemistry, health science, biology, and biochemistry.

A minimum grade of B is required. Similar courses previously taken and counted towards another degree are excluded.

No more than 6 units of 100-series coursework (from all disciplines) permitted unless approved by the graduate program coordinator and under no circumstances shall the total exceed 9 units.

Civil Engineering-Water Resources & Environmental Engineering Option, M.S.

Water Resources & Environmental Engineering Option, M.S. Requirements

(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. Graduate Record Examination (GRE) scores must be received by the application deadline for International Student applicants and within 30 days after the application deadline for Domestic Student applicants. The minimum score considered passing on the quantitative section is 146 (new scale) / 550 (old scale). 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.

Continuation in the Program. Students 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 their graduate adviser, but such change should be made before advancing to candidacy. The student, together with his or her new graduate adviser, completes a contract program of study within the first two semesters of changing advisors. The changing of advisors and the contract program of study must be approved by the department's Graduate Program Coordinator. Any disputes shall be resolved by the department's Graduate Committee.

A student must pass CE 210 with a grade of B or higher and satisfactorily complete a written examination 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. If a passing grade on the writing component is not achieved, students who have a passing grade on the sum total of other course requirements will receive an "Incomplete" and must pursue the completion of the writing requirements independently from the course and in collaboration with his/ her graduate advisor.

Students have two semesters to resolve incomplete work and avoid a failing grade in the course, which would likely lead to disqualification from the graduate program based on low GPA.

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 Research and Graduate Studies, Administrative Academic Probation, Academic Disqualification.

The M.S. in Civil Engineering requires the completion of 30 units following one of three programs of study.

Plan A (Thesis)

- 200-series CE courses, including CE 210, CE 240 and two from: CE 241, CE 243, CE 244, CE 246, CE 247, CE 248 and CE 249 (see notes 1 and 2) **Units:** 12-21
- 100-series CE or GME technical area courses (see notes 3 and 6) **Units:** 0-6
- Courses outside the department (see notes 4, 5, and 6) **Units:** 3-6
- CE 299 - Thesis **Units:** 2-6

Total: 30 Units

Plan B (Project)

- 200-series CE courses, including CE 210, CE 240 and two from: CE 241, CE 243, CE 244, CE 246, CE 247, CE 248 and CE 249 (see notes 1 and 2) **Units:** 15-24
- 100-series CE or GME technical area courses (see notes 3 and 6) **Units:** 0-6
- Courses outside the department (see notes 4, 5, and 6) **Units:** 3-6
- CE 298 - Project **Units:** 3

Total: 30 Units

Plan C (Comprehensive Exam)

- 200-series CE courses, including CE 210, CE 240 and two from: CE 241, CE 243, CE 244, CE 246, CE 247, CE 248 and CE 249 (see notes 1 and 2) **Units:** 18-27
- 100-series CE or GME technical area courses (see notes 3 and 6) **Units:** 0-6
- Courses outside the department (see notes 4, 5 and 6) **Units:** 3-6

- **Comprehensive Exam Units: 0**

Total: 30 Units

Advising Notes

CE 210 should be taken during the semester following completion of 6 units of graduate level coursework.

Graduate courses in civil engineering - select from CE 205, CE 206, CE 241, CE 243, CE 244, CE 246, CE 247, CE 248, CE 249, CE 290, CE 291T and CE 298 or CE 299.

100-series technical area courses in civil and geomatics engineering -- select from CE 174, CE 176, CE 177, CE 190 and CE 191T.

100-series and 200-series courses outside civil and geomatics engineering are in disciplines best suited to the student's career preparation, as approved by the program adviser and graduate program coordinator, and including but not limited to all engineering disciplines, construction management, mathematics, statistics, management, business, geology, physics, chemistry, health science, biology, and biochemistry.

A minimum grade of B is required. Similar courses previously taken and counted towards another degree are excluded.

No more than 6 units of 100-series coursework (from all disciplines) permitted unless approved by the graduate program coordinator and under no circumstances to exceed 9 units.

Clinical Rehabilitation and Mental Health Counseling - Clinical Mental Health Counseling Option, M.S.

Master of Science Degree Requirements

The Option in Clinical Mental Health Counseling (CMHC) is a 60-unit program designed for individuals seeking advanced preparation for careers in mental health settings. The Clinical Mental Health Counseling option prepares future mental health counselors who effectively and compassionately serve the mental health needs of diverse individuals across a lifespan.

The Clinical Mental Health Counseling option provides education and training to provide mental health services to individuals in individual and group environments. Preparation for the Clinical Mental Health Counseling option requires knowledge organized around core foundation courses, interpersonal growth experiences, diversity competence, advanced content and practice courses, and an intensive field experience placement. The CMHC option prepares individuals to become a licensed professional counselor.

Program Requirements

Under the direction of a graduate advisor, each student develops and submits an individually designed program within the following framework:

Core Requirements (36 units)

- COUN 200 - Seminar in Counseling Techniques **Units: 3**
- COUN 201 - Seminar in Multicultural Aspects of Counseling **Units: 3**
- COUN 202 - Seminar in Group Counseling **Units: 3**
- COUN 203 - Seminar in Assessment in Counseling **Units: 3**
- COUN 206 - Counseling Through the Lifespan **Units: 3**
- COUN 220 - Seminar in Career Development Theory **Units: 3**
- COUN 232 - Psychopathology and the Diagnostic and Statistical Manual of Mental Disorders **Units: 3**
- COUN 270 - Seminar in Advanced Counseling Theories **Units: 3**
- COUN 272 - Seminar in Psychopharmacology in Counseling **Units: 3**
- ERE 220 - Research in Education **Units: 3**
- REHAB 201 - Professional Identity and Ethics in Counseling **Units: 3**
- REHAB 265 - Rehabilitation for Substance Use Disorders **Units: 3**

Clinical Mental Health Counseling Option (21 units)

- COUN 230 - Seminar in Family Therapy Theories **Units: 3**
- REHAB 211 - Introduction to Clinical Mental Health Counseling **Units: 3**
- REHAB 238 - Clinical Rehabilitation and Mental Health Counseling Practicum **Units: 3**
- REHAB 239 - Internship in Clinical Rehabilitation & Mental Health Counseling **Units: 9**
- REHAB 245 - Treatment Planning and Interventions **Units: 3**
- REHAB 250 - Professional Counseling Practices **Units: 3**

Culminating Experience

Choose between

- The comprehensive exam plus 3 units of electives approved by adviser
- REHAB 298 - Project **Units: 3**
- REHAB 299 - Thesis **Units: 3**

Total: 60 Units

Note: (1) REHAB 201, REHAB 204 or REHAB 245, REHAB 237, and REHAB 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 206 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, one clinical reviews, and all other specific degree requirements. In addition, the student must complete one of the following: (1) the comprehensive exam (may be met by passing the National Certified Rehabilitation Counselor Exam), (2) Project, or (3) Thesis. Students may take the comprehensive examination a total of three (3) times before being recommended for dismissal from the program.

In compliance with Federal Requirements for Posting Licensure and Certification Eligibility, please see the CSU Chancellor's office. (<https://www.calstate.edu/csu-system/about-the-csu/accreditation>).

Clinical Rehabilitation and Mental Health Counseling - Clinical Rehabilitation Counseling Option, M.S.

Master of Science Degree Requirements

The Option in Clinical Rehabilitation Counseling (CRC) is a 60-unit program designed for individuals seeking advanced preparation for careers in serving individuals with disabilities in both private and public rehabilitation agencies and programs. This accredited option prepares culturally competent counselors using evidence-based and emerging best practices to work with a range of disabilities. The program has earned top rankings in the nation by U.S. News and World Report and is a national leader in hands-on, real world rehabilitation experience in California and beyond.

The Clinical Rehabilitation Counseling option focuses on an integration of theory, skill and practice in counseling, specializing in working with persons with disabilities from diverse backgrounds. The Clinical Rehabilitation Counseling option requires knowledge organized around core foundation courses, interpersonal growth experiences, diversity competency, advanced content and practice courses, and an intensive field experience placement. The CRC option qualifies students to sit for the Certified Rehabilitation Counselor (C.R.C.) examination leading to a preeminent national credential. Students are also prepared to become a licensed professional counselor. The CRC option is accredited by the Council for Accreditation of Counseling and Related Educational Programs (CACREP).

Program Requirements

Under the direction of a graduate advisor, each student develops and submits an individually designed program within the following framework:

Core Requirements (36 units)

- COUN 200 - Seminar in Counseling Techniques **Units: 3**
- COUN 201 - Seminar in Multicultural Aspects of Counseling **Units: 3**
- COUN 202 - Seminar in Group Counseling **Units: 3**
- COUN 203 - Seminar in Assessment in Counseling **Units: 3**
- COUN 206 - Counseling Through the Lifespan **Units: 3**
- COUN 220 - Seminar in Career Development Theory **Units: 3**
- COUN 232 - Psychopathology and the Diagnostic and Statistical Manual of Mental Disorders **Units: 3**
- COUN 270 - Seminar in Advanced Counseling Theories **Units: 3**
- COUN 272 - Seminar in Psychopharmacology in Counseling **Units: 3**
- ERE 220 - Research in Education **Units: 3**
- REHAB 201 - Professional Identity and Ethics in Counseling **Units: 3**
- REHAB 265 - Rehabilitation for Substance Use Disorders **Units: 3**

Clinical Rehabilitation Counseling Option (21 units)

- REHAB 204 - Medical & Psychosocial Aspects of Disability, Chronic Illness and Mental Health **Units: 3**
- REHAB 237 - Clinical Rehabilitation and Mental Health Services Case Management **Units: 3**
- REHAB 238 - Clinical Rehabilitation and Mental Health Counseling Practicum **Units: 3**
- REHAB 239 - Internship in Clinical Rehabilitation & Mental Health Counseling **Units: 9**
- REHAB 262 - Assistive Technology **Units: 3**

Culminating Experience

Choose between

- The comprehensive exam plus 3 units of electives approved by adviser
- REHAB 298 - Project **Units: 3**
- REHAB 299 - Thesis **Units: 3**

Total: 60 Units

Note: (1) REHAB 201, REHAB 204 or REHAB 245, REHAB 237, and REHAB 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 206 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, one clinical reviews, and all other specific degree requirements. In addition, the student must complete one of the following: (1) the comprehensive exam (may be met by passing the National Certified Rehabilitation Counselor Exam), (2) Project, or (3) Thesis. Students may take the comprehensive examination a total of three (3) times before being recommended for dismissal from the program.

In compliance with Federal Requirements for Posting Licensure and Certification Eligibility, please see the CSU Chancellor's office. (<https://www.calstate.edu/csu-system/about-the-csu/accreditation>).

Communication, M.A.

Master of Arts Degree in Communication Requirements

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, qualitative, and/or rhetorical 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 that 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 Research and Graduate Studies of this catalog.

- COMM 241 - Seminar in Rhetorical Theory **Units: 3**
AND
- COMM 262 - Seminar in Communication Theory and Research **Units: 3**
- COMM 205 - Seminar in Argumentation **Units: 3**
- COMM 214 - Seminar in Instructional Communication **Units: 3**
- COMM 215 - Seminar in Communication **Units: 3**
- COMM 242M - Seminar in Contemporary Criticism **Units: 3**
- COMM 243 - Seminar in Public and Strategic Discourse **Units: 3**
- COMM 263 - Seminar in Group Communication **Units: 3**
- COMM 264M - Seminar in Communication Research Methods **Units: 3**
- COMM 265 - Seminar in Interpersonal Communication **Units: 3**
- COMM 266 - Seminar in Communication and Culture **Units: 3**
- COMM 268 - Seminar in Organizational Communication **Units: 3**
- COMM 275 - Seminar in Applied Communication **Units: 3**
- COMM 276 - Seminar in Communication Training and Development **Units: 3**
OR
- COMM 290 - Independent Study **Units: 1-3**

Electives (3-9 units)

Culminating Experiences (0-6 units)

Select one of the following:

- Comprehensive Examination **Units: 0** (take at least 9 units of approved electives)
- COMM 298 - Project **Units: 2-6** (additional approved communication electives if needed)
- COMM 299 - Thesis **Units: 2-6** (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, COMM 214, COMM 215, COMM 242M, COMM 243, COMM 263, COMM 264M, COMM 265, and COMM 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, COMM

214, COMM 215, COMM 263, COMM 264M, COMM 265, COMM 266, COMM 268, COMM 275, and COMM 276.

Advising Notes

- At least 21 units in the student's program of study must be in 200-level (seminar) communication courses.
- One methods seminar (COMM 242M or COMM 264M) is required in every program.
- 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.
- 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 advisor. Elective requirements are approved by the student's graduate advisor and the graduate coordinator.

Computer Science, M.S.

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:

- have a minimum grade point average of 2.75 in the last 60 units and
- have completed the following undergraduate prerequisite courses or equivalents with a minimum grade point average of 3.0: CSCI 40, CSCI 41, CSCI 60, CSCI 80, CSCI 113, CSCI 114, CSCI 115, CSCI 117, CSCI 119, MATH 75, MATH 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 baccalaureate 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 - Design and Analysis of Algorithms **Units: 3**
OR
- CSCI 188 - Introduction to Computability **Units: 3**
- CSCI 200 - Introduction to Research in Computer Science **Units: 1**
- CSCI 201 - CSCI Colloquium **Units: 2**
- CSCI 213 - Computer Organization **Units: 3** *
OR
- CSCI 246 - Computer Architecture **Units: 3**
- CSCI 217 - Programming Language Principles **Units: 3**

Electives (9 units)

Three of the following:

- CSCI 226 - Advanced Database Systems **Units: 3**
- CSCI 230 - Advanced Web Application Development **Units: 3**
- CSCI 244 - Operating Systems **Units: 3**
- CSCI 246 - Computer Architecture **Units: 3**
- CSCI 250 - Advanced Software Engineering **Units: 3**
- CSCI 252 - Software Development and Environments **Units: 3**
- CSCI 253 - Human-Computer Interaction **Units: 3**
- CSCI 256 - Wireless Communications and Mobile Computing **Units: 3**
- CSCI 264 - Artificial Intelligence **Units: 3**
- CSCI 265 - Reinforcement Learning **Units: 3**
- CSCI 272 - Computer Graphics **Units: 3**
- CSCI 274 - Combinatorial Algorithms **Units: 3**
- CSCI 282 - Theory of Computation **Units: 3**
- CSCI 284 - Automata Theory **Units: 3**

Approved Electives (5-8 units)

Culminating Experience (3-6 units)

- CSCI 298 - Research Project **Units: 3**
OR
- CSCI 299 - Master's Thesis **Units: 3-6**
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.

Construction Management, M.S.

Admission: The requirements for graduate admission to California State University, Fresno must be met. Graduate Record Examination (GRE) scores must be received by the application deadline for International Student applicants and within 30 days after the application deadline for Domestic Student applicants. A score of 300 or better is highly recommended. Applicants must have completed College Algebra, Trigonometry, and general statistics, or equivalent level math courses. Also, applicants should possess a bachelor's degree in construction management from an accredited program; or a bachelor's degree in a related field from an accredited program with a minor or a certificate in construction management. Applicants must have a minimum overall GPA of 2.8 in their undergraduate education AND a minimum GPA of 3.0 in the construction management related courses attempted, on the basis of 4.0 being A; or the approval of the Graduate Committee of the Department of Construction Management. In addition, applicants also need to submit the following: (a) a personal statement explaining their motivation for pursuing the MSCM degree, (b) a resume detailing their professional and academic achievements, and (c) two letters of recommendation.

International applicants should also refer to the International Student Services and Programs (ISSP) for further graduate admission requirements:
<http://fresnostate.edu/academics/issp/future/graduate.html>.

If an applicant's preparation is deemed insufficient by the Graduate Committee of the Department of Construction Management, 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 MSCM degree. 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.

Foundation Courses: Students without a bachelor's degree, a minor, or a certificate in construction management are required to complete the following foundation CM courses prior to entering the MSCM program: CM 17S, CM 18, CM 20, CM 110, CM 116, CM 170.

Please also note that ACCT 4A is highly recommended as it is the prerequisite for several business electives included in the MSCM curriculum.

In some cases the course requirements may be modified or waived by the Graduate Program Coordinator or the senior faculty responsible for the course area of study.

Criteria for student continuation: Students should select a graduate adviser before completing 9 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 tenured/tenure track faculty.

A graduate student may change graduate advisers. He or she needs to fill out a form and has it signed by the advisers and the department Graduate Coordinator.

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.

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 Research and Graduate Studies, Administrative Academic Probation, Academic Disqualification.

A student can take the comprehensive exam no more than three times.

Construction Management Major Requirements

The M.S. in Construction Management program provides the technical competencies, financial knowledge, and entrepreneurial skills that are essential to today's leaders in the construction industry.

The program is a STEM (Science, Technology, Engineering, and Mathematics) program. It is designed for recent college graduates as well as working professionals with architecture, engineering, construction (AEC), business or related backgrounds.

It aims to prepare graduates to (a) fill upper management positions in the AEC industry; or (b) pursue Ph.D. studies in construction related fields, and eventually fill teaching and/or research positions in colleges and universities.

The program requires the completion of 30 semester units of coursework and a culminating experience following one of the three study plans below:

Plan A (Thesis)

- CM 299 - Thesis **Units: 3-6**

General Core Courses:

- CE 210 - Research Methods in Civil Engineering **Units: 3**
- MBA 210 - Leadership and Organizational Behavior **Units: 3**
- CM 220 - Advanced Planning and Preconstruction **Units: 3**
- CM 230 - Advanced Construction Operations **Units: 3**
- CM 240 - Advanced Construction Business Strategy **Units: 3**

CM Electives:

Two from

- CM 144 - Construction Site Planning and Development **Units: 3**
- CM 150 - Building Construction **Units: 3**
- CM 151 - Heavy Civil Construction **Units: 3**
- CM 177 - Sustainable Construction **Units: 3**
- CM 291T - Topics in Construction Management **Units: 3**

Elective Outside CM:

One from

- CE 206 - Engineering Environmental Impact **Units: 3**
- FIN 120 - Principles of Finance **Units: 4**
- FIN 123 - Business Forecasting **Units: 3**
- FIN 186 - Business and Real Estate Economics **Units: 3**
- MBA 212 - Financial Management **Units: 3**
- MBA 213 - Managerial Accounting **Units: 3**
- MBA 232 - Seminar in Investments and Portfolio Management **Units: 3**

Total (30 units)

Plan B (Project)

- CM 298 - Project **Units: 3**

General Core Courses:

- CE 210 - Research Methods in Civil Engineering **Units: 3**

- MBA 210 - Leadership and Organizational Behavior **Units: 3**
- CM 220 - Advanced Planning and Preconstruction **Units: 3**
- CM 230 - Advanced Construction Operations **Units: 3**
- CM 240 - Advanced Construction Business Strategy **Units: 3**

CM Electives:

Two from

- CM 144 - Construction Site Planning and Development **Units: 3**
- CM 150 - Building Construction **Units: 3**
- CM 151 - Heavy Civil Construction **Units: 3**
- CM 177 - Sustainable Construction **Units: 3**
- CM 291T - Topics in Construction Management **Units: 3**

Elective Outside CM:

One from

- CE 206 - Engineering Environmental Impact **Units: 3**
- FIN 120 - Principles of Finance **Units: 4**
- FIN 123 - Business Forecasting **Units: 3**
- FIN 186 - Business and Real Estate Economics **Units: 3**
- MBA 212 - Financial Management **Units: 3**
- MBA 213 - Managerial Accounting **Units: 3**
- MBA 232 - Seminar in Investments and Portfolio Management **Units: 3**

One from

- CM 290 - Independent Study **Units: 1-3**
- AND
- CM 293

Plan C (Comprehensive Exam)

- CM 290 - Independent Study **Units: 1-3 AND/OR**
- CM 293I - Internship **Units: 1-3**

General Core Courses:

- CE 210 - Research Methods in Civil Engineering **Units: 3**
- MBA 210 - Leadership and Organizational Behavior **Units: 3**
- CM 220 - Advanced Planning and Preconstruction **Units: 3**
- CM 230 - Advanced Construction Operations **Units: 3**
- CM 240 - Advanced Construction Business Strategy **Units: 3**

CM Electives:

Two from

- CM 144 - Construction Site Planning and Development **Units: 3**
- CM 150 - Building Construction **Units: 3**
- CM 151 - Heavy Civil Construction **Units: 3**
- CM 177 - Sustainable Construction **Units: 3**
- CM 291T - Topics in Construction Management **Units: 3**

Elective Outside CM:

One from

- CE 206 - Engineering Environmental Impact **Units: 3**
- FIN 120 - Principles of Finance **Units: 4**
- FIN 123 - Business Forecasting **Units: 3**
- FIN 186 - Business and Real Estate Economics **Units: 3**
- MBA 212 - Financial Management **Units: 3**
- MBA 213 - Managerial Accounting **Units: 3**
- MBA 232 - Seminar in Investments and Portfolio Management **Units: 3**

Comprehensive Exam (0 units)

Total: 30 Units

Advising Notes

Courses that are not listed here but are well suited to the student's graduate program may be taken as electives upon approval by the supervising faculty and Graduate Program Coordinator.

For electives, a minimum grade of B is required. Similar courses previously taken and counted towards another degree are excluded. Below is a summary of all required courses for graduation including electives. Students without a bachelor's degree, a minor, or a certificate in construction management are required to complete the foundation CM courses (i.e. CM 17S, CM 18, CM 20, CM 110, CM 116, CM 170) before taking the following courses.

Summary of Courses: CE 210, MBA 210, CM 230, CM 230, CM 240, CM 144, CM 150, CM 151, CM 177, CM 291T, CE 206, FIN 120, FIN 123, FIN 131E, FIN 186, MBA 212, MBA 213, MBA 232, CM 290, CM 293I, CM 298, CM 299, Comprehensive Exam

Counseling - School Counseling Option, M.S.

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.

Admission Requirements

In addition to the admission requirements listed in the Graduate Education Program section of this catalog, admission to the MS in Counseling option School Counseling program requires a minimum of 3.0 GPA, a statement of purpose, three letters of recommendation, professional resume or curriculum vitae, interview with program faculty, Certificate of Clearance, evidence of having met the California Basic Skills Requirement (BSR), and the recommended completion of 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 Requirements

Students must possess a Certificate of Clearance (or valid teaching credential) before applying.

Under the direction of a graduate advisor, each student develops and submits an individually designed program within the following framework:

Core Requirements (25 units)

- COUN 200 - Seminar in Counseling Techniques **Units: 3**
- COUN 201 - Seminar in Multicultural Aspects of Counseling **Units: 3**
- COUN 202 - Seminar in Group Counseling **Units: 3**
- COUN 203 - Seminar in Assessment in Counseling **Units: 3**
- COUN 206 - Counseling Through the Lifespan **Units: 3**
- COUN 208 - Practicum in Counseling **Units: 4**

- COUN 220 - Seminar in Career Development Theory **Units: 3**
- ERE 220 - Research in Education **Units: 3**

School Counseling Option (16 units)

- COUN 240 - Seminar in Counseling of Exceptional Children and Their Parents **Units: 3**
 - COUN 241 - Seminar in Organization of Counseling Services **Units: 3**
 - COUN 242S - Seminar on Parent Education, Pupil Advocacy, and Consulting **Units: 3**
 - COUN 249 - Field Practice in School Counseling **Units: 4-8**
 - CI 285 - Seminar in Advanced Educational Psychology **Units: 3**
- OR**
- ERE 288 - Educational Measurement and Program Evaluation **Units: 3**

Culminating Experience (7 units)

Choose between:

- Comprehensive exam **Units: 0 units plus 7 units of electives**
- COUN 298 - Project **Units: 3-4 plus 4 units of electives**
- COUN 299 - Thesis **Units: 3-4 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 by passing the writing component of COUN 206.

Counseling - Student Affairs & College Counseling Option, M.S.

Option in Student Affairs and College Counseling Requirements

The Master of Science in Counseling with an option in Student Affairs and College Counseling (SACC) is a 48-unit counseling-

based program that prepares individuals for positions in student affairs and other key positions to facilitate student success in a higher education setting. The SACC program provides individuals with the academic preparation and training to effectively address the academic, career, and personal counseling needs of college students. SACC students receive extensive training and supervision in the core conditions of Person-Centered Counseling through coursework, practicum, and field practice. The application of the core conditions in the work of student affairs professionals is essential in developing cohesive working relationships and understanding the needs of diverse students in higher education. The classroom and experiential opportunities allow SACC students to learn, practice, and apply their counseling knowledge in a variety of higher education settings.

Admission Requirements

In addition to the admission requirements listed in the Graduate Education Program section of this catalog, admission to the M.S. in Counseling, option in Student Affairs and College Counseling program requires a minimum 3.0 G.P.A., a statement of purpose, three letters of recommendation, professional resume or curriculum vitae, interview with program faculty, and the recommended completion of 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 Requirements

Under the direction of a graduate advisor, each student develops and submits an individually designed program within the following framework:

Core Requirements (25 units)

- COUN 200 - Seminar in Counseling Techniques **Units: 3**
- COUN 201 - Seminar in Multicultural Aspects of Counseling **Units: 3**
- COUN 202 - Seminar in Group Counseling **Units: 3**
- COUN 203 - Seminar in Assessment in Counseling **Units: 3**
- COUN 206 - Counseling Through the Lifespan **Units: 3**
- COUN 208 - Practicum in Counseling **Units: 4**
- COUN 220 - Seminar in Career Development Theory **Units: 3**
- ERE 220 - Research in Education **Units: 3**

Student Affairs and College Counseling Option (18 units)

- COUN 214S - Student Development Theory and Higher Education Development **Units: 3**
- COUN 215 - Foundations of Student Services in Higher Education **Units: 3**
- COUN 219 - Field Practice in Student Services **Units: 3-6**

- ERE 288 - Educational Measurement and Program Evaluation **Units: 3**
- HEAL 220 - Introduction to Higher Education **Units: 3**

Culminating Experience (5 units)

Choose between:

- Comprehensive exam **Units: 0** plus 7 units of electives
- COUN 298 - Project **Units: 3-4** plus 4 units of electives
- COUN 299 - Thesis **Units: 3-4** plus 4 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 optional 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. advisor, 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 - Seminar: Writing Poetry **Units: 4**
OR
- ENGL 263 - Seminar: Writing Fiction **Units: 4**
OR
- ENGL 265 - Seminar: Writing Creative Nonfiction **Units: 4**
- ENGL 241 - Seminar in Form and Theory: Poetry **Units: 4**
- ENGL 243 - Seminar in Form and Theory: Fiction **Units: 4**
OR
- ENGL 245 - Seminar in Form and Theory: Creative Nonfiction **Units: 4**
(one course in the student's focus genre and one in either of the other two genres)
- ENGL 250T - Seminar in Literature **Units: 4**
OR
- ENGL 280T - Seminar in Critical Theory **Units: 4**
- Approved electives (upper-division or graduate level courses) **Units: 12-14**
- ENGL 299 - Thesis **Units: 2-6**

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 - Seminar: Writing Poetry **Units: 4**
OR
- ENGL 263 - Seminar: Writing Fiction **Units: 4**
OR
- ENGL 265 - Seminar: Writing Creative Nonfiction **Units: 4**
- ENGL 241 - Seminar in Form and Theory: Poetry **Units: 4**
- ENGL 243 - Seminar in Form and Theory: Fiction **Units: 4**
OR
- ENGL 245 - Seminar in Form and Theory: Creative Nonfiction **Units: 4**
(one course in the student's focus genre and one in either of the other two genres)
- ENGL 250T - Seminar in Literature **Units: 4**
OR
- ENGL 280T - Seminar in Critical Theory **Units: 4**

- ENGL 286 - Practicum in Literary Arts - Publishing and Programming **Units: 1-6 AND/OR**
- ENGL 242 - Literary Editing and Publishing **Units: 4**

- Approved electives (upper-division or graduate level courses) **Units: 8 -10**
- ENGL 299 - Thesis **Units: 2-6**

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 their final semester, students will complete a formal defense of their thesis with their committee.

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.

Contextualizing Narrative. In addition to the general Graduate Division requirements, students are required to complete the M.F.A. Contextualizing Narrative Assignment with a grade of B or above. Students work with their advisor to create an approved reading list for the assignment. The Contextualizing Narrative Assignment consists of craft-focused annotations of approved texts that allow students to demonstrate a theoretical and critical knowledge of their genre.

Criminology, M.S.

Program Overview: The Master of Science (MS) degree in Criminology is a 30-unit, flexible program that provides students with theoretical and applied knowledge related to the field of criminology while also permitting students to pursue specialized areas of interest. The program is designed to prepare students for service and responsible administrative and professional positions in agencies in the criminal justice system. The program also prepares students for a wide variety of occupations, including in-service education, administrative education and management, community college teaching, pre-doctoral studies, and research. Since offering our first graduate course in 1957, our graduate program has become the most comprehensive master's program in the discipline between Sacramento and Los Angeles. It is an advanced program that continues to draw applicants from across the United States and around the world.

Admissions to the Master of Science in Criminology Graduate Program: The Department of Criminology only admits new graduate students during the fall of each semester. To be considered for admission into the graduate program, applicants must meet the following requirements:

Possess a baccalaureate degree from an accredited institution with a cumulative grade point average (GPA) of at least 3.0 (on a 4-point scale)

Complete the online application process for the Department of Criminology and California State University, Fresno via Cal State Apply. In doing so, applicants will be asked to submit:

An official copy of their undergraduate transcripts
A statement of purpose, in which they will explain their reasons for wanting to pursue a master's degree in Criminology, the benefits they expect to derive from their graduate studies, and highlight any relevant academic and/or practical experience.

Three letters of recommendation. Two of these three letters **must** come from academicians (e.g., former college professors/instructors) who can speak to your academic abilities at the college level. Applicants will provide email addresses for their letter writers via Cal State Apply and these individuals will then be prompted to upload/submit their letters of recommendations with a provided link.

Criminology Graduate Program Application Filing Period: The deadline for applications to the graduate program is April 1st of each year. Incomplete applications and those received after April 1st will not be considered by the graduate admissions committee.

Core Requirements (15 units)

- CRIM 200 - Research Methods in Criminology **Units: 3**
- CRIM 201 - Advanced Criminological Theory **Units: 3**
- CRIM 202 - Law and the Criminal Justice System **Units: 3**
- CRIM 203 - Criminal Justice Systems **Units: 3**
- CRIM 204 - Quantitative Methods and Analysis **Units: 3**

Graduate Electives (12 units)

The Department of Criminology offers four graduate elective courses each academic year that cover a variety of different topics. These graduate elective courses vary each year.

Culminating Experience (3 units)

Graduate students in the MS Criminology program must complete a culminating experience and can choose from the following: thesis, project, or the comprehensive exam. Each of these options has a required course associated with it that graduate students must complete:

- CRIM 295 - Controversial Issues in Crime, Criminology and Law **Units: 3**
- CRIM 298 - Project **Units: 3-6 (for 3 units)**
- CRIM 299 - Thesis **Units: 3-6 (for 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 in the CRIM 200 course. Please see the program's Graduate Writing Requirement Policy for more information.

Advancement to Candidacy Requirements

Graduate students in the MS Criminology program typically qualify for Advancement to Candidacy in the spring semester of their first year in the program. To do so, students must meet the following requirements:

- Hold classified graduate standing
- Have a minimum GPA of 3.0 on all completed graduate coursework
- Have passed the graduate writing requirement (detailed above and in the department's graduate handbook)

Deaf Education, M.A.

Master of Arts Degree Requirements Deaf Education

The Deaf Education Master of Arts degree is considered essential for the professional training needed for effective practice in deaf education or speech-language pathology. The Master of Arts degree generally involves two years of full-time study.

Admission Requirements

The graduate program is open to students with Communicative Sciences and Deaf Studies 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) transcript with a minimum GPA of 3.0 in the last 60 units of any coursework and a minimum GPA of 3.0 in CSDS 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) students with disabilities, and (3) 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 of Arts degree.

Admission Procedures

To apply for graduate study in the Department of Communicative Sciences and Deaf Studies, you need to apply to the university and to the department. 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

For more information about applying to a graduate program at the university, please visit the Graduate Admissions page for a list of helpful links.

Submit your application online via Cal State Apply. You will select the Masters Degree in Deaf Education.

Submit one official transcript from each college that you attended after highschool to the university. Information about submitting your transcripts to the university can be found on the Transcripts Requirement page. **Do not send transcripts to the department office.**

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 there, go to <http://www.ets.org/gre> for their home page.

Step 2. Apply to the Department

You will be required to submit the following online via Cal State Apply:

Statement of Purpose (aka: Letter of Intent). See Department website for more information.

Three Letters of Recommendation. Once you enter Cal State Apply, you will be asked to provide the names and email addresses of 3 individuals who will provide letters of recommendation electronically.

Additional optional or required documents, as specified in Cal State Apply.

Advancement to Candidacy

Each student in a Master of Arts degree program must file for advancement to candidacy. See Admissions and Master of Arts Degree Programs, Division of Research and 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 of Arts degree. Students can demonstrate these abilities by passing the writing component of CSDS 203 and obtaining written clearance from the instructor. If GWR clearance is denied, students may appeal to the course instructor. Please see the CSDS 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 Deaf Education. Students are encouraged to take the course during their senior year. Exceptions may be made with the consent of their faculty advisor.

Grade Requirements

To be eligible to receive the Master of Arts 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.

Program Requirements

- CSDS 201 - Working with Families with Diverse DHH Learners through Case Management **Units: 3**
- CSDS 203 - Graduate Studies and Research Methods in Deaf Education **Units: 3**
- CSDS 206 - Hearing and Speech for Deaf Education Teachers **Units: 3**
- CSDS 255 - Differentiated Instruction and Assessment of DHH Students **Units: 3**
- CSDS 262 - Fundamentals of Teaching Literacy Skills **Units: 3**
- CSDS 263 - Fundamentals of Teaching Mathematics Literacy **Units: 3**
- CSDS 264 - Integration of Technology Across the Curriculum for DHH Multilingual Learners **Units: 3**
- CSDS 271 - Foundations of Teaching **Units: 3**
- CSDS 272 - Advanced Studies in Deaf Education **Units: 3**
- CSDS 273 - Topics and Trends in Curriculum and Instruction **Units: 3**
- Culminating Experience - Thesis or project **Units: 6**
- Comprehensive Examination

Total: 36 Units

Student Teaching and Internship

Students are required to take their final student teaching and internship (e.g. CSDS 258 and CSDS 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.

Culminating Experience

A culminating experience is required of all California State University, Fresno students earning Master of Arts degrees. This requirement is accomplished by completing a thesis, project, or comprehensive written exam.

Certification by Council on Education of the Deaf and Education Specialist: DHH Credential

In addition to the requirements for the Master of Arts degree, students will have clinical experiences. CSDS 260 (3 units), CSDS 258 (6 units), CSDS 268 (6 units).

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.

Early Childhood Education, M.A.

Dr. Feiyan Chen, Coordinator
Education Building, Room 267
559.278.0222
fchen@mail.fresnostate.edu

The Master of Arts 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,

admission to the M.A. in Early Childhood Education program requires the following:

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.

Provide verification of advisement

Statement of purpose

Three letters of recommendation

Program Requirements

Under the direction of a graduate adviser, each student prepares and submits an individually designed program within the following framework:

Course Requirements (27 units)

- LEE 171 - Trends and Issues in Early Childhood Education **Units: 3**
 - LEE 232 - Literacy in Early Childhood Education **Units: 3**
 - LEE 233 - Curriculum and Assessment in Early Childhood Education **Units: 3**
 - LEE 235 - Concept Development in Early Childhood Education **Units: 3 ****
 - LEE 241 - Fieldwork in Early Childhood Education **Units: 3**
 - LEE 250 - Leadership in Early Childhood Education **Units: 3**
 - LEE 271 - Diversity and Inclusion in Early Childhood Education **Units: 3**
 - ERE 220 - Research in Education **Units: 3 ***
 - CI 285 - Seminar in Advanced Educational Psychology **Units: 3**
- OR**
- ERE 288 - Educational Measurement and Program Evaluation **Units: 3**

Culminating Experience (3 units)

Choose between:

- 3 units of approved electives plus comprehensive exam **Units: 0**
- LEE 298B - Project: Early Childhood Education **Units: 1-3**
- LEE 299 - Thesis **Units: 1-3**

Description of the Three Culminating Project Options:

The Comprehensive Examination is a take-home, four question essay exam based on the program's course content aligned with the NAEYC standards. The Comprehensive Exam is released to approved candidates on a certain date, and

students have 10 days to complete and submit their exam responses. Students receive the four exam questions with rubrics on the exam release date and choose three of the four questions. Students may use any resources to craft their responses, but are expected to do their own work and abide by the University Honor Code. Response essays must include credible, peer-reviewed research, theory, and evidence to support claims, with citations and references (APA 7th ed.). Response essays are expected to follow the grammar, format, and citation conventions set forth by the American Psychological Association (APA) Style Manual, 7th edition. Students have three opportunities to pass the Comprehensive Examination in any given semester. For each opportunity, students retake only the exam questions that they have not passed on previous attempts. If students are unable to pass all exam questions by the third attempt, they may petition the program to have another semester to try the Comp Exam again. If the second semester is granted, students will have three opportunities to pass that semester's Comp Exam.

A project consists of a significant scholarly undertaking that is relevant to the field of Early Childhood Education. It must demonstrate originality, independent thinking, effective organization, and writing proficiency descriptive of graduate level work. The completed project includes a comprehensive literature review and a creative project component. A project is supervised by a faculty advisor.

A thesis is a written product of the study of a specific or well-defined question or issue, which merits being investigated. It is a document resulting from original research and includes the following elements: statement of the problem, review of relevant theoretical and empirical literature, methodology, results and implications. The thesis format can take two forms, empirical or theoretical. For more information, consult the "Policies and Procedures Manual for 299/Thesis." Students become eligible to register for LEE 299: Thesis once the research topic has been formulated, a thesis committee has been established and a substantial amount of the initial writing has been completed. Students are encouraged to initiate this process at least one semester prior to enrolling in 299/Thesis.

Total: 30 Units

* ERE 153 - Educational Statistics or an approved equivalent is a prerequisite for ERE 220 - Research in Education

** Students meet the Graduate Writing Requirement by passing the writing component of LEE 235. Concept Development in Early Childhood Education. See graduate program coordinator for further information.

Education - Curriculum & Instruction Option, M.A.

Carol Fry Bohlin, Coordinator
Education Building, Room 234

559.278.0237

<https://kremen.fresnostate.edu/departments-programs/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, admission to the M.A. in Education, option Curriculum and Instruction program requires a minimum 2.75 GPA, a statement of purpose, and three letters of recommendation.

Program Requirements

Under the direction of the program coordinator, each student prepares an individually designed program within the following framework:

Required Courses (12 units)

MAE Core:

- CI 285 - Seminar in Advanced Educational Psychology
Units: 3

OR

- ERE 288 - Educational Measurement and Program Evaluation **Units: 3**
- ERE 220 - Research in Education **Units: 3** **

C&I Option:

- CI 250 - Advanced Curriculum Theory and Analysis **Units: 3**
*
- CI 275 - Advanced Instructional Theories and Strategies
Units: 3

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.

Culminating Experience (3 units)

Choose from among

- 3 units of approved electives plus comprehensive exam **Units: 0**

- CI 298A - Project: Curriculum and Instruction **Units: 1-3**
- CI 299A - Thesis: Curriculum and Instruction **Units: 1-3**

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 - Multilingual & Multicultural Education Option, M.A.

Multilingual and Multicultural Education Option, M.A. Requirements

Dr. Teresa Huerta, Coordinator
Education Building, Room 253
559.278.0364

thuerta@csufresno.edu

<https://kremen.fresnostate.edu/masters-education/multilingual-multicultural/index.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, admission to the M.A. in Education option Multilingual/Multicultural Education requires a minimum 2.75 GPA, a statement of purpose, and three letters of recommendation.

Program Requirements. Under the direction of the multilingual/multicultural coordinator, each student prepares and submits an individually designed program within the following framework:

Course Requirements (21 units)

- LEE 281 - Critical Pedagogy for Diverse Learners **Units: 3**
- LEE 282 - Research Topics in Second Language Acquisition **Units: 3 ***
- LEE 283 - Cultural Competency for Educators **Units: 3**
- LEE 284 - Collaborative Leadership for Educational Diversity **Units: 3**
- ERE 220 - Research in Education **Units: 3**
- CI 285 - Seminar in Advanced Educational Psychology **Units: 3**

OR

- ERE 288 - Educational Measurement and Program Evaluation **Units: 3**
- LEE 298D - Project - Multilingual & Multicultural Education **Units: 1-3**

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 - Practical English Grammar for Language Teachers **Units: 3**
- ERE 153 - Educational Statistics **Units: 3 ****
- LEE 214 - Literature for Children and Adolescents **Units: 3**
- LEE 215 - Language Issues in Reading **Units: 3**
- CI 240 - Social Justice and the Multicultural Classroom **Units: 3**
- CI 241 - Teaching for Equity and Justice in the Multicultural Classroom: Practice into Theory **Units: 3**
- LEE 280T - Advanced Topics in Literacy and Early Education **Units: 1-3**

Culminating Experience (3 units)

Choose between

- LEE 298D - Project - Multilingual & Multicultural Education **Units: 1-3**
- 3 units of approved electives plus comprehensive exam **Units: 0**

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.

M.A. in Education Option: Reading/Language Arts Requirements

Dr. Imelda Basurto

Kremen Education Building, Room 250

559.278.0285

ibasurto@csufresno.edu

<https://kremen.fresnostate.edu/masters-education/reading-language-arts/index.html>

Program Philosophy. The Reading/Language Arts MA, which includes the Reading and Literacy Added Authorization and Reading and Literacy Leadership Specialist Credential, is a practitioner-centered program focusing on the interdisciplinary study of literacy from a variety of critical and sociocultural perspectives. Through these perspectives we emphasize culture and language in literacy instruction. As a program, we follow the International Literacy Association's definition of literacy as identifying, understanding, interpreting, creating, computing, and communicating with visual, audible, and digital materials across disciplines and contexts (2018). Skills like Phonemic Awareness, Phonics, Fluency, Vocabulary, Comprehension, as well as literary response and critique, and writing/composition, are developed through the lens of cultural experiences, the use of socially-situated practices, and culturally sustaining materials.

We believe all people are literate, and align with Kirkland (2013, p. xiv) who stated, "Literacy is a potential-complex, social, cultural, historical, and even political-that, like energy, is ever stored in the human bond. The practice of literacy is a release of this energy/potential, which always exists in every human's ability/vocation to make sense of our world" (David Kirkland, 2013, p. xiv).

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, admission to the M.A. in Education option - Reading/Language Arts program requires a minimum of 2.75 GPA, a statement of purpose, and three letters of recommendation.

Program Requirements. Under the direction of the Reading Program Coordinator, each student prepares and submits an individually designed program within the following framework:

Course Requirements (18 units)

- ERE 220 - Research in Education **Units: 3 ***
- ERE 288 - Educational Measurement and Program Evaluation **Units: 3**
OR
- CI 285 - Seminar in Advanced Educational Psychology **Units: 3**
- LEE 213 - Teaching the Language Arts K-12 **Units: 3 ****
- LEE 215 - Language Issues in Reading **Units: 3**
- LEE 244 - Research for Reading Professionals **Units: 3**
- LEE 278 - Literacy Processes and Practices **Units: 3**

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.)

Culminating Experience (3 units)

Choose between

- Choose between 3 units of approved electives plus comprehensive exam **Units: 0**
- LEE 298A - Project Literacy **Units: 3**
- LEE 299 - Thesis **Units: 1-3**

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.

Dr. Earl Aguilera
Education Building, Room 233
559.278.03236
eaguilera@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.

Admission Requirements. In addition to the admission requirements listed in the Graduate Education program section of this catalog, admission to the M.A. in Teaching program requires a minimum of 2.75 GPA, statement of purpose, three letters of recommendation, and a valid teaching credential or private school employee contract.

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 - Social Justice and the Multicultural Classroom **Units: 3**
- ERE 243 - Research on Teaching in the Multicultural Classroom: Quantitative and Qualitative Methods **Units: 3**
- CI 241 - Teaching for Equity and Justice in the Multicultural Classroom: Practice into Theory **Units: 3 ***
- CI 245 - Investigating Practice in the Diverse Classroom: Practitioner Research **Units: 4**
- CI 246 - Action Research in the Multicultural Classroom: Capstone Project and Dissemination **Units: 4**
- Electives **Units: 9 ****

Culminating Experience (4 units)

- Comprehensive exam **Units: 0**, plus CI 260 **Units: 4**
- CI 298B - Project: MAT **Units: 4**
OR
- CI 299B - Thesis: MAT **Units: 4**

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/advisor and can include approved units from a postbaccalaureate credential program (e.g., CalStateTEACH, California State University, Fresno, etc.) and/or graduate program.

Educational Leadership and Administration, M.A.

Program Description. The Master of Arts degree in Educational Leadership and Administration prepares students for a Master of Arts and a California Preliminary Administrative Services Credential.

Admission Requirements. The Master of Arts and California Preliminary Administrative Services Credential Program require the following documentation: application to the CSD and Educational Leadership program, 2.75 GPA, transcript of undergraduate degree and credential completion, a Clear or life California teaching credential, California designated subjects teaching credential in adult education, career technical education, vocational education or special subjects, pupil personnel services, health services for school nurse, teacher librarian services, or speech-language pathology or clinical or rehabilitative services, two letters of recommendation, statement of purpose, undergraduate writing competency fulfillment, and resume that demonstrates at least 3.5 years of experience in the school setting.

Program Requirements.

Course Requirements (26 units)

Educational Leadership Core:

- EAD 261 - School Leadership for Equity and Improvement **Units: 5**
- EAD 262 - Communities of Practice for Student Learning and Wellbeing **Units: 3-6**
- EAD 263 - Professional Learning for Teacher Growth **Units: 4**
- EAD 271 - Leadership Seminar and Fieldwork 1 **Units: 1**
- EAD 272 - Leadership Seminar and Fieldwork 2 **Units: 2**
- EAD 273 - Site-Based Leadership and Fieldwork 3 **Units: 4**
- ERE 244 - Mixed Methods Research in Diverse Classrooms **Units: 4**

Culminating Experience Requirements (4 units)

- EAD 298 - Project **Units: 4** - A project that is a significant undertaking appropriate to the fine and applied arts or to professional fields. It evidences originality and independent thinking, appropriate

form and organization, and a rationale. It is 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, or

- EAD 299 - Thesis **Units: 4** - A thesis is the written product of a systematic study of a significant problem. It 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 evidences originality, critical and independent thinking, appropriate organization and format, and thorough documentation. Normally, an oral defense of the thesis is required.

Total: 30 Units

* ERE 153 or an approved equivalent is a prerequisite for ERE 244.

** Students meet the Graduate Writing Requirement by passing the writing component of ERE 244.

Note: no more than 6 units of coursework taken for CR/NC only may be applied toward degree requirements.

Electrical and Computer Engineering, M.S.

The Master of Science in ECE 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 computer 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 computer 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, (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

Fundamental Courses (12 units):

- ECE 201 - Systems Modeling and Realization **Units: 2**
- ENGR 200 - Seminar in Engineering **Units: 1**

Select 9 Units From:

- ECE 224 - Advanced Signals and Systems **Units: 3**
- ECE 231 - Digital Control Systems **Units: 3**
- ECE 241 - Applied Electromagnetics **Units: 3**
- ECE 245 - Communications Engineering **Units: 3**
- ECE 240 - VLSI Circuits and Systems **Units: 3**
- ECE 242 - Digital Systems Testing and Testable Design **Units: 3**
- ECE 253 - Power Systems Dynamics **Units: 3**
- ECE 274 - High Performance Computer Architecture **Units: 3**
- ECE 278 - Embedded System Design **Units: 3**

Choose From the Following (12 - 18 units)

Up to six units may be taken from ECE 100-level courses which are not required for a BS degree in the ECE department

Up to six units of 200-level courses in program related subjects (Business, Engineering, Mathematics, Physics, and Computer Science) may be taken with the graduate coordinator's approval.

200-level ECE courses (Course prerequisites must have been completed before enrolling in the course).

Culminating Experience (0 - 6 units)

Select one:

- ECE 299 - Thesis **Units: 3-6**
- ECE 298 - Project **Units: 3**
- Comprehensive Exam **Units: 0**

University and Program Admission

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 Fresno State follows the requirements for admission in accordance with Title 5, Chapter 1, Subchapter 3 of the California Code of Regulations.

Students who apply to the program are placed in one of the following categories:

Graduate Standing, Classified. Students with (a) an undergraduate degree in electrical or computer engineering discipline from a recognized program, (b) a good academic

record and undergraduate grade point average of 3.0, (c) a minimum GRE quantitative score of 150 (d) a letter of recommendation from an academic or an industrial source.

Graduate Standing, Conditionally Classified. Electrical and computer engineering students with 2.5 GPA from ABET accredited or students 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 and/or achieve a certain GPA as determined by the graduate program at the time of admission. Upon satisfactorily meeting all 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 of at least 10 units of the degree program with a 3.0 average GPA on completed courses listed on the application for advancement candidacy, (3) Departmental recommendation for advancement to candidacy, and (4) Satisfactory completion of Graduate Writing Skills Requirement (ENGR 200).

Non-degree 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.

Master of Science Programs Requirements

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:

Main Core (1 unit)

- ENGR 200 - Seminar in Engineering **Units: 1**

Option Core (9 units)

EE Option:

- ECE 201 - Systems Modeling and Realization **Units: 2**
- ECE 224 - Advanced Signals and Systems **Units: 3**

Choose One from

- ECE 230 - Nonlinear Control Systems **Units: 3**
- ECE 241 - Applied Electromagnetics **Units: 3**
- ENGR 206 - Stochastic Theory in Engineering Analysis for Electrical Engineers **Units: 3**

CompE Option:

- ECE 278 - Embedded System Design **Units: 3**

Choose Two from

- ECE 240 - VLSI Circuits and Systems **Units: 3**
- ECE 243 - VLSI Physical Design **Units: 3**
- ECE 274 - High Performance Computer Architecture **Units: 3**

ME Option (choose 3 courses):

- ECE 201 - Systems Modeling and Realization **Units: 2**
- ENGR 202 - Applied Engineering Analysis **Units: 3**
- ENGR 205 - Computing in Engineering Analysis **Units: 3**
- ENGR 206 - Stochastic Theory in Engineering Analysis for Electrical Engineers **Units: 3**

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 notes.

ME Option: Choose from remaining upper-division and program courses. Maximum of 9 upper-division units. See courses in Mechanical Engineering.

Culminating Experience (6 units)

For either option, choose

- 6 units of electives plus comprehensive exam, minimum of 3 units from corresponding program electives, or
- ECE 298 or ME 298 Project (3 units) plus 3 units of program electives, or
- ECE 299 or ME 299 Thesis (6 units)

Total: 30 Units

Advising Notes

CompE Program electives: ECE 224, ECE 240, ECE 242, ECE 243, ECE 255, ECE 274, ECE 291T, ECE 290 (3 units max)

EE Program electives: ENGR 206, ECE 230, ECE 231, ECE 232, ECE 241, ECE 245, ECE 247, ECE 249, ECE 251, ECE 253, ECE 255, ECE 257, ECE 259, ECE 274, ECE 291T, ECE 290 (3 units max)

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:

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.

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:

Classified graduate standing.

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.

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.

Departmental recommendation for advancement to candidacy.

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 creditor 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.

English - Literature Option, M.A.

Master of Arts Degree

Requirements

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:

ENGL 105, Introduction to Literary Analysis

British Literature: One of ENGL 146, ENGL 147, ENGL 150, ENGL 151, ENGL 152, or ENGL 156

American Literature: One of ENGL 153, ENGL 154, or ENGL 155

World Literature: One of ENGL 112, ENGL 113, ENGL 114, or ENGL 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 22 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 - Research Methods in English Studies **Units: 4**
- ENGL 250T - Seminar in Literature **Units: 4**
AND/OR
- ENGL 280T - Seminar in Critical Theory **Units: 4**
- ENGL 299 - Thesis **Units: 2-6**
- Approved electives in English or other fields (see Specific Requirements) **Units: 12**

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 ENGL 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 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 English Department's graduate coordinator every semester for program planning.

English-Rhetoric and Writing Studies Option, M.A.

Master of Arts in English Degree Requirements

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 advisor, each student prepares and submits a coherent program individually designed within the following framework:

- ENGL 205 - Research Methods in English Studies **Units: 4**
- ENGL 250T - Seminar in Literature **Units: 4**
- ENGL 278T - Seminar in Rhetoric and Composition **Units: 4**
OR
- ENGL 280T - Seminar in Critical Theory **Units: 4**
- ENGL 270 - Seminar in Teaching Writing: Theory and Practice **Units: 4**
- ENGL 281 - Current Writing Theory **Units: 4**
- Approved electives in English or other fields **Units: 4**
- ENGL 299 - Thesis **Units: 2-6** (Thesis -- writing theory, pedagogy, literacy studies, rhetorical theory and criticism)
- ENGL 282A - Practicum in the Teaching of Writing I **Units: 1**

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 ENGL 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 ENGL 282A . Enrollment in ENGL

282A 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 advisor every semester for program planning.

Food and Nutritional Sciences, M.S.

Mission: The Master of Science in Food and Nutritional Sciences at California State University, Fresno provides for development of advanced level knowledge, development of research abilities, and the mentoring of future leaders.

Outcomes: The program graduates will be able to (a) use knowledge and critical thinking skills to identify innovative solutions to problems, (b) communicate research findings through professional presentations and publications, (c) advance their careers, and (d) take an active role in their profession.

This program provides a graduate-level proficiency in food science or nutrition. The degree is applicable to specializations in food research, production, processing, chemistry, and microbiology; and dietetics, nutrition, nutrition education, and food service systems management.

Admission requirements: The Master of Science in Food and Nutritional Sciences assumes preparation equivalent to a bachelor of science in food science, nutrition, or similar 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. In addition: undergraduate coursework grade point average of 3.0 or better on the last 60 semester/ 90 quarter units; minimum GRE scores equivalent to the 50th percentile; If preparatory language is other than English, minimum TOEFL of 550 and Minimum TWE (Test of Written English) score of 4; 500-word or less statement of professional goals; and reference letters addressing student's ability to meet program's expectations of graduate level performance.

Additional requirements for the Dietetic Internship Supervised Practice Program combined with Master of Science: The

combined dietetic internship supervised practice program and master's degree is a post baccalaureate professional program that meets the requirements for supervised practice experience for entry-level dietitians.

The Accreditation Council for Education in Nutrition and Dietetics (ACEND?) has granted accreditation to this program as a combined master's and dietetic internship. ACEND can be reached at 2120 South Riverside Plaza, Suite 2190, Chicago, IL 60606-6995 or at (312) 899-0040 ext. 5400 (www.eatright.org/ACEND).

A verification statement will only be provided to M.S./D.I. graduates at the end of the two-year master's program, once both supervised practice internship requirements and master's degree requirements are met.

Student graduates completing the program will be eligible to take the examination for dietitians administered by the Commission on Dietetic Registration (CDR) of the Academy of Nutrition and Dietetics (AND).

Candidates for admission will be evaluated using the following criteria: undergraduate coursework, grade point average of 3.0 or better, completion of an accredited/approved didactic program in dietetics (DPD) program and verification statement within the last five years, GRE scores (138V/136Q), Three letters of recommendation and personal statement.

If English is not a primary language of the undergraduate degree institution, student candidates must have earned a minimum TOEFL score of 550 is required if native language is not English.

This program participates in DICAS and D&D Digital computer match. Therefore, all applicants must submit through the DICAS and D&D Digital computer matching process by the designated deadline set by DICAS/D&D Digital for the matching period.

The application process has three parts (all of which must be completed for your application to be considered):

application to the supervised practice dietetic internship application process through Dietetic Internship Centralized Application Services (DICAS): <https://portal.dicas.org>. Application fee required.

application to the university through Cal State Apply for post baccalaureate standing option, as Food and Nutritional Sciences (Dietetic Internship) program: <https://www.calstate.edu/apply> CSU application fee required

application to D & D Digital for online computer matching service for AND <http://www.dnndigital.com> Application fee required

Accepted student interns must successfully complete/pass criminal background checks, immunization clearance, and fingerprinting PRIOR to beginning program.

Prerequisite Courses

The Master of Science in Food and Nutritional Sciences assumes preparation equivalent to a California State University, Fresno

undergraduate major in food science, dairy science, nutrition, dietetics and food administration, or related areas.

Students with undergraduate degrees in other fields or from other institutions who need to make up course deficiencies should consult with the graduate coordinator. The following specific prerequisite foundation courses, or their equivalents, are required:

Food Science:

- FSC 112 - Food and Dairy Chemistry **Units: 4**
- FSC 115 - Food Analysis **Units: 3**
- FSC 125 - Food and Dairy Microbiology **Units: 4**
- FSC 141 - Fruit, Vegetable, and Edible Oil Processing **Units: 4**
- FSC 144 - Food Engineering **Units: 3**

Nutrition/Dietetics:

- NUTR 149E - Food and Nutrition Communication **Units: 3**
- NUTR 153 - Advanced Nutrition **Units: 3**
- NUTR 160 - Nutrition across the Life Cycle 1 **Units: 3**
OR
completion of an ADA-accredited didactic program in dietetics as evidenced by a signed verification statement.

Program Requirements

All students must complete a 12-unit common core. Under the direction of the graduate adviser, students may focus a program in a specialized area to meet their career goals. This is accomplished by the selection of a minimum of 12 units of electives. A 6-unit thesis or project completes the program of study. A minimum of 21 units must be taken at the 200 level. This degree can be earned in combination with the dietetic internship experiential supervised practice upon successful application process into the dietetics internship program through DICAS and approval by the dietetics advisor prior to enrollment.

Core

- FN 200 - Research Methods in Food and Nutrition **Units: 3**
- 200-level statistics course **Units: 3** (See Graduate Advising Notes.)
- FN 223 - Food, Nutrition, and Health **Units: 3**
- FN 229 - Seminar **Units: 1** (for 3 units)

Approved Electives

- 200- or 100-level courses appropriate to individually designed program; must be approved by adviser prior to enrollment **Units: 12**

Culminating Experience

- FN 298 - Project **Units: 2-6**
OR
- FN 299 - Thesis **Units: 2-6**

Total Minimum: 30 Units

Advising Notes for M.S. in Food and Nutritional Sciences

Several of the 200-level and approved elective courses have prerequisites other than courses listed as admission requirements.

The statistics requirement may be met with any adviser approved 200-level statistics course offered by the university.

Students should request specific information concerning the master of science degree and the program advising sheet from the department office.

Upon admission, students should see the department graduate program coordinator for assistance in selection of a graduate adviser.

To progress through the graduate program, the student must:

Maintain a minimum of 3.0 GPA

Complete all prerequisite coursework

Attain classified standing

Meet the graduate writing proficiency requirement

File for advancement to candidacy

Complete the program requirements

File a master committee assignment form for a thesis or a project

Either formally present and defend the thesis results or formally present project results

The Graduate Writing Skills requirement for the graduate program in Food and Nutritional Sciences may be met by passing the writing component of AGRI 220 or FN 200. Please see the program's graduate adviser for more information.

Advancement to candidacy requires the completion of 9 program units in residence, a minimum GPA of 3.0, meeting the graduate writing proficiency requirement, and filing a petition for advancement to candidacy a minimum of one semester prior to enrollment in thesis or project and within the deadline.

Students may apply a maximum of 3 units each of FN 290 or FN 292 to their program.

See Division of Graduate Studies in this catalog for university requirements.

Geology, M.S.

Master of Science in Geology Requirements

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, 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, involving coursework in geology, civil engineering, chemistry, soil sciences, and other areas. Applied geology emphasis include: (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.

Please see the Geology Graduate Student Handbook <http://fresnostate.edu/csm/ees/degrees-programs/grad-student-handbook.html> or contact the Geology M.S. program coordinator for more information.

Degree Requirements

Fresno State's Master of Science in Geology consists of 30 units of coursework and master's thesis research. Geology M.S. work assumes as its foundation the equivalent of an undergraduate major in geology. The Geology M.S. coursework builds upon this foundation and two-thirds of the 30 units required for the degree must be in geology, with at least 21 of the 30 in graduate level (200-series) courses. For thesis research students are guided by a thesis advisor. The thesis advisor also guides the selection of coursework in the program. For additional details regarding such requirements, procedures, and milestones, please contact the geology graduate program coordinator and the Geology Graduate Student Handbook <http://fresnostate.edu/csm/ees/degrees-programs/grad-student-handbook.html>; for general requirements see Division of Research and 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 advisor, 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 200 - Introduction to Scientific Writing and Presenting **Units: 3**
- EES 201 - Geoscience Writing and Thesis Proposal Design **Units: 3**
- EES 299 - Thesis **Units: 2-6**
- 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 advisor **Units: 18**

Total: 30 Units

Students studying applied geology should take the following courses before or during their graduate experience: EES 114, EES 117, EES 124.

Modifications in the program of study may be made with approval of both the thesis advisor and graduate program coordinator.

Additional Requirements.

A master's thesis and oral thesis defense are required. Also, an oral defense of a thesis proposal is required as part of EES 201, to ensure that students have selected a problem that is commensurate with an M.S. thesis and that the proposed methods of analysis are appropriate to the task. The thesis defense will include questions about 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.

Higher Education Administration and Leadership, M.A.

Program Description. The Department of Educational Leadership offers a graduate program leading to a Master of Arts degree in Higher Education Administration and Leadership. The program prepares individuals interested in careers in higher education settings and agencies. The mission of the Higher Education Administration and Leadership (HEAL) program is to develop ethical leaders whose practice relies on critical thinking and is informed by research and theory to work in colleges, universities, and other educational agencies as a means of advancing social justice and diversity.

HEAL attracts individuals interested in careers in colleges, universities, and other related educational settings. During a 30-unit, four-semester, program of study, HEAL students delve into a curriculum that examines policies, practices, theories, and current

issues related to the post-secondary education pipeline. Students acquire valuable analytical skills while developing their philosophies in social justice and leadership. The HEAL curriculum and the relationships with faculty lead to learning experiences that offer students the essential knowledge and skills required for exemplary practice in a variety of roles in higher education and student affairs.

Admission Requirements. In addition to the admission requirements listed in the Graduate Education Program section of this catalog, admission to the HEAL program require a minimum 2.75 GPA, a statement of purpose, and two letters of recommendation.

Program Requirements.

Course Requirements (27 units)

Higher Education Administration and Leadership Core:

- HEAL 220 - Introduction to Higher Education **Units: 3 ***
- HEAL 221 - Student Affairs in Higher Education **Units: 3**
- HEAL 222 - Diversity, Inclusion, and Equity in Higher Education **Units: 3**
- HEAL 223 - Students in US Higher Education **Units: 3**
- HEAL 224 - Foundations of Inquiry and Applied Research in Higher Education **Units: 3**
- HEAL 225 - Higher Education Leadership and Supervision **Units: 3**
- HEAL 226 - Assessment in Higher Education **Units: 3**
- HEAL 227 - Law, Policy, and Ethics in Higher Education **Units: 3**
- HEAL 228 - Current Issues in Higher Education **Units: 3**

Culminating Experience** (3 units)

- HEAL 298 - Project **Units: 3**
OR
- HEAL 299 - Thesis **Units: 3**

Total: 30 Units

* Students meet the Graduate Writing Requirement by passing the writing component of HEAL 220. Note: no more than 6 units of coursework taken for CR/NC may be applied toward degree requirements.

** Satisfactory completion of a thesis or project, defined as follows:

A thesis is the written product of a systematic study of a significant problem. It 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 evidences originality, critical and independent thinking, appropriate organization and format, and thorough documentation. Normally, an oral defense of the thesis is required.

A project is a significant undertaking appropriate to the fine and applied arts or to professional fields. It evidences originality and independent thinking, appropriate form and organization, and a rationale. It is 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.

History - Teaching Option, M.A.

Master of Arts Degree Requirements

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.

Core (15 units)

Note: HIST 200A/HIST 200B must be taken within the first year of enrollment in the history program.

- HIST 200A - Introduction to Graduate Writing and Historiography **Units: 3**
- HIST 200B - Introduction to Graduate Research and Historiography **Units: 3**
- HIST 210T - Topics in United States History **Units: 3**
- HIST 220T - Topics in European History **Units: 3**
- HIST 230T - Topics in World History **Units: 3**

Electives (6 units)

Students will select 6 additional units from

- HIST 210T - Topics in United States History **Units: 3**
- HIST 220T - Topics in European History **Units: 3**
- HIST 230T - Topics in World History **Units: 3** (Students may repeat course numbers but may not repeat topics.)

Practicum (6 units)

- HIST 296 - Topics in History for Teachers **Units: 1-3**
- HIST 297 - History Practicum **Units: 1-3**

Culminating Experience (3 units)

Project:

- HIST 298 - Project **Units: 3**

Total: 30 Units

Graduate Program

(See Division of Research and Graduate Studies.)

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.

History, M.A.

Master of Arts Degree

Requirements

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:

Core (15 units)

Note: HIST 200A/HIST 200B must be taken within the first year of enrollment in the history program.

- HIST 200A - Introduction to Graduate Writing and Historiography **Units: 3**
- HIST 200B - Introduction to Graduate Research and Historiography **Units: 3**
- HIST 210T - Topics in United States History **Units: 3**
- HIST 220T - Topics in European History **Units: 3**
- HIST 230T - Topics in World History **Units: 3**

Electives (6 units)

Students will select 6 additional units from

- HIST 210T - Topics in United States History **Units: 3**
- HIST 220T - Topics in European History **Units: 3**
- HIST 230T - Topics in World History **Units: 3** (Students may repeat course numbers but may not repeat topics.)

History Practicum (3 units)

- HIST 297 - History Practicum **Units: 1-3**

Culminating Experience (6 units)

Thesis Option:

6 units of

- HIST 299A - Thesis **Units: 3**
- HIST 299B - Thesis **Units: 3**

Examination Option:

6 additional units from

(No more than two fields may be taken from any group.)

- HIST 210T - Topics in United States History **Units: 3**
- HIST 220T - Topics in European History **Units: 3**
- HIST 230T - Topics in World History **Units: 3** plus a written comprehensive examination in three fields chosen from among the following.

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 advisor; for general requirements see the Division of Research and Graduate Studies and Research.

Graduate Program

(See Division of Research and Graduate Studies.)

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.

Master of Science Degree Requirements

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 52, IT 74, IT 114, IT 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 80.

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 144Q / 140V / 3.0A 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 advisor, each student prepares and submits a coherent program individually designed within the following framework:

Specific Requirements

Required Courses (15 units)

- IT 216 - Production Data Analytics **Units:** 3
- IT 219 - Applied Sensor Technology **Units:** 3
- IT 223 - Management of New Technology **Units:** 3
- IT 280 - Research Methodology **Units:** 3
- IT 285 - Advanced Manufacturing Systems **Units:** 3

Electives in Industrial Technology or Related Field (9-12 units)

(approved electives appropriate to individually designed program; a maximum of 6 units may be 100-level courses)

Culminating Experience (3-6 units)

Note: Students must enroll in 6 units of IT 299 if choosing the Thesis option.

- IT 298 - Project **Units:** 2-4
OR
- IT 299 - Thesis **Units:** 3

Total Minimum Requirements: 30 Units

Graduate Advising Notes

Upon admission, students should see the department graduate program coordinator for aid in program planning.

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

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.

Students must meet the university graduate writing competency requirement by passing the writing component of IT 280 or IT 285. Students should complete the writing requirement prior to advancement to candidacy.

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.

Master of Arts Degree Requirements

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 advisor, each student designs a coherent program within the following framework:

Core (6 units)

- KINES 230 - Statistical Inference in Kinesiology **Units:** 3
- KINES 231 - Research Methods in Kinesiology **Units:** 3

Required Coursework (15-21 units)

With advisement, select from:

- KINES 222 - Biomechanics **Units:** 3
- KINES 232 - Environmental Exercise Physiology **Units:** 3
- KINES 233 - Metabolic and Neuromuscular Exercise Physiology **Units:** 3
- KINES 234 - Cardiovascular and Respiratory Exercise Physiology **Units:** 3
- KINES 237 - Design and Implementation of Resistance Training Programs **Units:** 3
- KINES 238
- KINES 265 - Psychobiology of Sport and Exercise **Units:** 3
- KINES 285 - Internship in Kinesiology **Units:** 3-6
- KINES 290 - Independent Study **Units:** 3

Electives (3-6 units)

Any KINES 200-level course or approved outside area course

Culminating Experience (3-6 units)

- KINES 298 - Project **Units:** 3-6
- KINES 299 - Thesis **Units:** 6 or comprehensive exam plus internship

Total: 30 Units

Advising Notes

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.

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.

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.

See also the general graduate requirements listed under the Division of Research and Graduate Studies.

Kinesiology - Sport Administration Option, M.A.

Master of Arts Degree Requirements

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 advisor, each student designs a coherent program within the following framework:

Core (6 units)

- KINES 230 - Statistical Inference in Kinesiology **Units:** 3
- KINES 231 - Research Methods in Kinesiology **Units:** 3

Required Coursework (18 units)

- KINES 241 - Sport Leadership **Units:** 3
- KINES 244 - Sport Law **Units:** 3
- KINES 245 - Sport Career Development **Units:** 3
- KINES 246 - Sport Revenue Streams **Units:** 3
- KINES 261 - Professional Ethics **Units:** 3
- KINES 285 - Internship in Kinesiology **Units:** 3-6

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 - Project **Units:** 3-6
- KINES 299 - Thesis **Units:** 6 or comprehensive exam

Total: 30 Units

Advising Notes

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.

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.

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.

See also the general graduate requirements listed under the Division of Research and Graduate Studies.

Kinesiology - Sport Psychology Option, M.A.

Master of Arts Degree Requirements

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 advisor, each student designs a coherent program within the following framework:

Core (6 units)

- KINES 230 - Statistical Inference in Kinesiology **Units: 3**
- KINES 231 - Research Methods in Kinesiology **Units: 3**

Required Coursework (15 units)

- KINES 262 - Social Implications of Sport **Units: 3**
- KINES 263 - Psychology of Sport: Mental Training **Units: 3**
- KINES 264 - Psychology of Coaching: Talent Development **Units: 3**
- KINES 265 - Psychobiology of Sport and Exercise **Units: 3**
- KINES 266 - Psychology of Injury in Sport and Physical Activity **Units: 3**

Electives Within Program (3-9 units)

Any KINES 200-level course or approved outside area course

Electives Outside Program (0-6 units)

- COUN 200 - Seminar in Counseling Techniques **Units: 3**
- MBA 270 - Seminar in Business Ventures **Units: 3**

Culminating Experience (0-6 units)

- KINES 298 - Project **Units: 3-6**
- KINES 299 - Thesis **Units: 6 or comprehensive exam**

Total: 30 Units

Advising Notes

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.

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.

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.

See also the general graduate requirements listed under the Division of Research and Graduate Studies.

Kinesiology, M.A.

Master of Arts Degree Requirements

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 advisor, each student designs a coherent program within the following framework:

Core (6 units)

- KINES 230 - Statistical Inference in Kinesiology **Units: 3**
- KINES 231 - Research Methods in Kinesiology **Units: 3**

Required Coursework (9 units)

With advisement, select from:

- KINES 241 - Sport Leadership **Units: 3**
- KINES 242 - Program Development in Physical Education **Units: 3**
- KINES 244 - Sport Law **Units: 3**
- KINES 261 - Professional Ethics **Units: 3**
- KINES 262 - Social Implications of Sport **Units: 3**
- KINES 263 - Psychology of Sport: Mental Training **Units: 3**
- KINES 264 - Psychology of Coaching: Talent Development **Units: 3**
- KINES 285 - Internship in Kinesiology **Units: 3-6**

Electives (12 units)

Any additional KINES 200-level courses or approved outside area courses

Culminating Experience (0-6 units)

- KINES 298 - Project **Units:** 3-6
- KINES 299 - Thesis **Units:** 6 or comprehensive exam

Total: 30 Units

Advising Notes

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.

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.

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.

See also the general graduate requirements listed under the Division of Research and Graduate Studies.

Linguistics - TESOL/SLAT (Second Language Acquisition & Teaching) Option, M.A.

The Department of Linguistics offers an M.A. in Linguistics with an option in General Linguistics and an M.A. in Linguistics with an option in Teaching English to Speakers of Other Languages. 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 Research and 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, LING 139, LING 142, LING 143, LING 148, LING 165, (all students) and LING 141 and LING 171I (TESOL students).

The graduate program consists of at least 30 units, 21 of which must be 200-level courses. Note the following requirements:

Core: (15 units)

- LING 239 - Phonetics **Units:** 3
- LING 242 - Seminar in Phonology **Units:** 3
- LING 243 - Seminar in Syntax **Units:** 3
- LING 248 - Seminar in Sociolinguistics **Units:** 3
- LING 265 - Seminar in Language Acquisition **Units:** 3

Required: (12 units)

- LING 236 - Teaching Listening, Speaking & Pronunciation to Speakers of Other Languages **Units:** 3
- LING 237 - Teaching Reading and Writing to Speakers of Other Languages **Units:** 3
- LING 241S - Seminar in TESOL/SLAT **Units:** 3
- LING 244 - Curriculum Design and Classroom Evaluation **Units:** 3

Electives: (3 units)

One additional course is required for TESOL option students selecting the Comprehensive Exam.

All students select one of the following culminating experiences:

Thesis: LING 299A-LING 299B (6 units)

Comprehensive Exam

Highly recommended electives are LING 151 and LING 145 and LING 165. Highly recommended electives for TESOL students are LING 132 and LING 148.

Upon examination of the student's record other courses will be specified to produce a coherent program.

Linguistics, M.A.

The Department of Linguistics offers an M.A. in Linguistics with an option in General Linguistics and 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 Research and 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 obtain classified standing in the department. These include LING 100, LING 139, LING 142, LING 143, LING 148, LING 165, (all students) and LING 141 and LING 171I (TESL students).

The graduate program consists of at least 30 units, 21 of which must be 200-level courses. Note the following requirements:

Core: (15 units)

- LING 239 - Phonetics **Units: 3**
- LING 242 - Seminar in Phonology **Units: 3**
- LING 243 - Seminar in Syntax **Units: 3**
- LING 248 - Seminar in Sociolinguistics **Units: 3**

- LING 265 - Seminar in Language Acquisition **Units: 3**

Required: (3 units)

- LING 249 - Field Methods **Units: 3**

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 LING 148.

Upon examination of the student's record other courses will be specified to produce a coherent program.

Marriage, Family, and Child Counseling, M.S.

M.S. in Marriage, Family, and Child Counseling Requirements

The Master of Science in Marriage, Family, and Child 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 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 advisor 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 degree 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 several 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. 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 pursuing one of the specific counseling degrees offered by the department.

Coursework required to meet the educational requirements for licensure as a Professional Clinical Counselor (LPCC) includes

- ERE 220 - Research in Education **Units: 3**
- COUN 174 - Introduction to Counseling **Units: 3**
- COUN 200 - Seminar in Counseling Techniques **Units: 3**
- COUN 201 - Seminar in Multicultural Aspects of Counseling **Units: 3**
- COUN 202 - Seminar in Group Counseling **Units: 3**
- COUN 203 - Seminar in Assessment in Counseling **Units: 3**
- COUN 206 - Counseling Through the Lifespan **Units: 3**
- COUN 208 - Practicum in Counseling **Units: 4**
- COUN 220 - Seminar in Career Development Theory **Units: 3**
- COUN 231 - Seminar in Ethics and Professional Practices of Counseling **Units: 3**
- COUN 232 - Psychopathology and the Diagnostic and Statistical Manual of Mental Disorders **Units: 3**
- COUN 233 - Seminar in Therapeutic Methods with Children, Adolescents, and Their Families **Units: 3**
- COUN 234A - Contemporary Issues in Counseling: Sexuality in Human Relationships **Units: 1**
- COUN 234B - Contemporary Issues in Counseling: Violence in Intimate Relationships **Units: 1**
- COUN 234E - Seminar in Consultation **Units: 1**
- COUN 235 - Couples Therapy **Units: 3**
- COUN 238 - Advanced Practicum **Units: 4**
- COUN 239 - Field Placement in Counseling **Units: 3-12**
- COUN 270 - Seminar in Advanced Counseling Theories **Units: 3**
- COUN 271 - Seminar in Addictions Counseling **Units: 3**
- COUN 272 - Seminar in Psychopharmacology in Counseling **Units: 3 and**
- COUN 273 - Seminar in Crisis and Trauma Counseling **Units: 3**

Admission Requirements

In addition to the admission requirements listed in the Graduate Education Program section of this catalog, admission to the MS in Marriage, Family and Child Counseling program requires a minimum 3.0 GPA, a statement of purpose, three letters of recommendation, professional resume or curriculum vitae, and the recommended completion of the following prerequisite coursework or their equivalents, earning a grade of C or better:

- ERE 153 - Educational Statistics **Units: 3**
- COUN 174 - Introduction to Counseling **Units: 3**
- OR**
- PSYCH 174 - Introduction to Counseling **Units: 3**
- COUN 176 - Counseling and Mental Health **Units: 3**
- OR**
- PSYCH 66 - Abnormal Psychology **Units: 3**

Program Requirements

Under the direction of a graduate advisor, each student develops and submits an individually designed program within the following framework:

Core Requirements (25 units)

- COUN 200 - Seminar in Counseling Techniques **Units: 3**
- COUN 201 - Seminar in Multicultural Aspects of Counseling **Units: 3**
- COUN 202 - Seminar in Group Counseling **Units: 3**
- COUN 203 - Seminar in Assessment in Counseling **Units: 3**
- COUN 206 - Counseling Through the Lifespan **Units: 3**
- COUN 208 - Practicum in Counseling **Units: 4**
- COUN 220 - Seminar in Career Development Theory **Units: 3**
- ERE 220 - Research in Education **Units: 3**

Marriage, Family, and Child Counseling Option (31 units)

- COUN 230 - Seminar in Family Therapy Theories **Units: 3**
- COUN 231 - Seminar in Ethics and Professional Practices of Counseling **Units: 3**
- COUN 232 - Psychopathology and the Diagnostic and Statistical Manual of Mental Disorders **Units: 3**
- COUN 233 - Seminar in Therapeutic Methods with Children, Adolescents, and Their Families **Units: 3**
- COUN 234A - Contemporary Issues in Counseling: Sexuality in Human Relationships **Units: 1**
- COUN 234B - Contemporary Issues in Counseling: Violence in Intimate Relationships **Units: 1**
- COUN 234C - Contemporary Issues in Counseling: Substance Abuse Treatment **Units: 1**
- COUN 234D - Psychopharmacology **Units: 2**
- COUN 234E - Seminar in Consultation **Units: 1**
- COUN 235 - Couples Therapy **Units: 3**
- COUN 238 - Advanced Practicum **Units: 4**
- COUN 239 - Field Placement in Counseling **Units: 3-12 (for 6 units)**

Culminating Experience (4 units)

Choose between (a) 4 units of electives plus comprehensive exam, (b) COUN 298 - Project [3 units] plus 1 unit of elective, or (c) COUN 299 - Thesis [3 units] plus 1 unit of elective.

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 206. Please refer to the specific counseling program's Student Handbook for additional information regarding the Graduate Writing Requirement and appeals process.

In compliance with Federal Requirements for Posting Licensure and Certification Eligibility, please see the CSU Chancellor's Office calstate.edu website.

Mathematics, M.S.

Master of Science Degree Program Requirements

The M.S. in mathematics is designed for students who wish to study mathematics at an advanced level. Within this program, students may choose to focus their coursework on paths leading to careers in business or industry, teaching at a community college, assuming a leadership role in high school mathematics education, or going on to pursue a Ph.D. in mathematics or mathematics education.

Core Curriculum (6 units)

[see Advising Note 2]

- MATH 251 - Abstract Algebra I **Units: 3**
- MATH 271 - Real Analysis **Units: 3**

Additional Courses (6 units):

Choose One of The Following:

- MATH 200 - Research Methods in Mathematics Education **Units: 3**
- MATH 232 - Mathematical Models with Technology **Units: 3**
- MATH 252 - Abstract Algebra II **Units: 3**
- MATH 272 - Functional Analysis **Units: 3**

Choose One of The Following:

- MATH 223 - Applied Operator Theory **Units: 3**
- MATH 228 - Functions of a Complex Variable **Units: 3**
- MATH 260 - Perspectives in Geometry **Units: 3**

Elective Curriculum (15 units)

(A combination of approved courses - see Advising Note 1)

Project or Thesis (3 units)

- MATH 298 - Research Project in Mathematics **Units: 3**
- MATH 299 - Thesis in Mathematics **Units: 3**

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 Science in Mathematics. Deadlines are given in that document.

Graduate Advising Notes

Under the direction of the department graduate advisor, each candidate should prepare and submit for approval a program of courses as early as possible.

All graduate students should obtain a copy of the Department of Mathematics Graduate Studies Handbook for more detailed information on the program requirements.

Graduate Program

The Department of Mathematics offers a Master of Science (M.S.) 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 comparable 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 either:

- take the GRE Mathematics subject test. Applicants' GRE Mathematics subject test scores are expected to be at least 500; or
 - complete, with the five years, courses on: upper division linear algebra, abstract algebra, and real analysis, all with at least a B and an average of 3.3
- 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.

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.

Two options are offered within the MA. in Music program: Performance and Music Education. Emphases within the area of Performance include: choral conducting, composition, instrumental conducting, instrumental performance, and vocal performance.

Admission Criteria

A cumulative undergraduate GPA of 3.0 is required. Applicants with a GPA between 2.75 and 2.99 may be considered.

A bachelor's degree in music (or the equivalent) is required. Applicants must have their official transcript(s) sent directly to the Office of Graduate Admissions.

Applicants in choral conducting, instrumental conducting, instrumental performance, and vocal performance must arrange an audition with the appropriate faculty member.

Applicants in the areas of composition and music education must arrange an interview with the appropriate faculty member.

Three current letters of recommendation must be sent directly to the Music Graduate Coordinator (pdf format preferred). At least two letters must be from former music teachers, professors, or other musicians with firsthand knowledge of the applicant's musical and academic abilities or experiences.

Applicants must submit a Statement of Purpose that addresses the reasons(s) for pursuing graduate study at Fresno State, along with a detailed explanation of the applicant's personal and professional goals.

A writing sample (equivalent to an undergraduate term paper) must be submitted to the Music Graduate Coordinator as part of the application.

Music Education Option applicants must hold a valid California Credential to teach music or complete the California Basic Skills Test (CBEST) and subject matter proficiency, as defined by the California Commission on Teacher Credentialing (CSET or approved subject matter program).

Foreign students must have achieved a minimum TOEFL score of 600 to gain entrance 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.)

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.

Under the direction of the graduate advisor, each student prepares and submits a coherent program designed within the following framework:

Courses in music, including at least 21 units in 200-series

Specific Requirements (12 units)

- MUSIC 204 - Graduate Music Theory Survey **Units: 3**
- MUSIC 220 - Seminar in Research Methods and Bibliography **Units: 3**
- MUSIC 260T - Topical Seminars in Music History **Units: 3**
- MUSIC 277 - Seminar in American Music **Units: 3**
- MUSIC 240T
- MUSIC 267 - Seminar in Contemporary Music **Units: 3**

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 advisor)

Project or Thesis (3 units)

Students in the performance option who elect emphases in vocal performance and choral conducting are required to complete **MUSIC 285** Graduate Lyric Diction. The prerequisite for this course is MUSIC 185B or permission of the instructor.

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 examinations. A maximum of 4 units in **MUSIC 102** taken after completion of the B.A. may be applied to the M.A.

Total: 30 Units

Music - Performance Option, M.A.

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.

Two options are offered within the MA. in Music program: Performance and Music Education. Emphases within the area of Performance include: choral conducting, composition, instrumental conducting, instrumental performance, and vocal performance.

Admission Criteria

A cumulative undergraduate GPA of 3.0 is required. Applicants with a GPA between 2.75 and 2.99 may be considered.

A bachelor's degree in music (or the equivalent) is required.

Applicants must have their official transcript(s) sent directly to the Office of Graduate Admissions.

Applicants in choral conducting, instrumental conducting, instrumental performance, and vocal performance must arrange an audition with the appropriate faculty member.

Applicants in the areas of composition and music education must arrange an interview with the appropriate faculty member.

Three current letters of recommendation must be sent directly to the Music Graduate Coordinator (pdf format preferred). At least two letters must be from former music teachers, professors, or other musicians with firsthand knowledge of the applicant's musical and academic abilities or experiences.

Applicants must submit a Statement of Purpose that addresses the reasons(s) for pursuing graduate study at Fresno State, along with a detailed explanation of the applicant's personal and professional goals.

A writing sample (equivalent to an undergraduate term paper) must be submitted to the Music Graduate Coordinator as part of the application.

Music Education Option applicants must hold a valid California Credential to teach music or complete the California Basic Skills Test (CBEST) and subject matter proficiency, as defined by the California Commission on Teacher Credentialing (CSET or approved subject matter program).

Foreign students must have achieved a minimum TOEFL score of 600 to gain entrance 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.)

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.

Under the direction of the graduate advisor, each student prepares and submits a coherent program designed within the following framework:

Courses in music, including at least 21 units in 200-series

Specific Requirements (12 units)

- MUSIC 204 - Graduate Music Theory Survey **Units: 3**
- MUSIC 220 - Seminar in Research Methods and Bibliography **Units: 3**
- MUSIC 260T - Topical Seminars in Music History **Units: 3**
- MUSIC 277 - Seminar in American Music **Units: 3**
- MUSIC 267 - Seminar in Contemporary Music **Units: 3**

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 advisor)

Project or Thesis (3 units)

Total: 30 Units

Students in the performance option who elect emphases in vocal performance and choral conducting are required to complete **MUSIC 285** Graduate Lyric Diction. The prerequisite for this course is **MUSIC 185B** or permission of the instructor.

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 examinations. A maximum of 4 units in **MUSIC 102** taken after completion of the B.A. may be applied to the M.A.

Nursing - Nurse Practitioner / Primary Care / Family, M.S.

The school offers a 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 role of nurse practitioner. 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 the functional role of a nurse practitioner. Any nursing class in the role specialization option area may be canceled because of insufficient enrollment.

Nurse Practitioner/Primary Care/Family

The Nurse Practitioner/Primary Care/Family 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.

The purpose of the Nurse Practitioner/Primary/Family Care 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.

You must apply to the University by March 1 as a graduate student through www.calstate.edu/apply.

You must also complete a School of Nursing application. Go to www.nursingcas.org and complete the application online. Complete and submit School of Nursing graduate program written essay.

Have official copies of all transcripts sent to both Nursing CAS and to

Graduate Admissions Office
Joyal Administration Building
5150 N. Maple M/S JA57
Fresno, CA 93740-8026

* All applications, letters of recommendation, transcripts and other supporting documents must be received by BOTH the University and Program by March 1.

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

Admission to California State University, Fresno, Division of Research and Graduate Studies
Baccalaureate degree in nursing from an NLN/CCNE accredited program
Registered nurse license in California
Cumulative GPA of 3.0
Malpractice insurance
An introductory course in statistics
An introductory course in research
A physical assessment course that includes theory and practice; or validation of knowledge and skills for graduates of programs with integrated content
Current BLS 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:

Submission of resume of all past educational and employment experience. Resume should emphasize experience in leadership, community health, research, and writing for publication.

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.

Satisfactory completion of the individualized program established by the coordinator before enrolling in the regular M.S.N. program.

Admission to the Nurse Practitioner/Primary Care/Family program is not guaranteed, and all students must complete an application to the Nurse Practitioner/Primary Care/Family program.

Post-Master's Certificates

At California State University, Fresno, the post-master's nurse practitioner certificate is 30 units. 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:

- NURS 299 - Thesis **Units: 3**
OR
- NURS 298 - Project **Units: 3**

Core Courses in Nursing (16 units)

- NURS 210 - Health Assessment in Advanced Nursing Practice **Units: 3**
- NURS 211 - Advanced Pharmacology **Units: 3**
- NURS 212 - Advanced Pathophysiology **Units: 2**
- NURS 221 - Theoretical Foundations of Nursing Practice **Units: 2**
- NURS 223 - Advanced Research Methodology in Nursing **Units: 3**
- NURS 225 - Advanced Nursing Issues: Health Care Policy Ethics and Role Development **Units: 3**

Role Specialization Courses (21 units)

Nurse Practitioner/Primary Care/Family Option

- NURS 215 - Obstetrics & Gynecology in Primary Care **Units: 2**
- NURS 261 - FNP Role in Caring for Pediatric Patients and Family **Units: 1**

- NURS 264 - Primary Practicum Family Nurse Practitioner **Units: 4**
- NURS 265 - Family Nurse Practitioner Role in Primary Prevention **Units: 2**
- NURS 266 - Family Nurse Practitioner Role in Secondary Prevention **Units: 2**
- NURS 267 - Practicum in Secondary Prevention, Family Nurse Practitioner **Units: 4**
- NURS 277 - Family Nurse Practitioner Role in Tertiary Prevention **Units: 2**
- NURS 278 - Practicum in Tertiary Prevention, Family Nurse Practitioner **Units: 4**

Minimum Total: 40 Units

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 the Nurse Practitioner/Primary Care/Family program 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 and Project. The school offers students the option of writing a thesis or completing a project. Information about the culminating experience is available from an advisor in nursing.

Note: All practicum courses require a minimum of 45 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 Research and Graduate Studies and those specified in the graduate nursing program brochure.

Physics, M.S.

Master of Science in Physics - Requirements

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, PHYS 220B) and quantum mechanics (PHYS 222A, PHYS 222B) 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.

Physics Graduate Course Requirements (21 units)

- PHYS 203 - Classical Mechanics **Units: 4**
- PHYS 220A - Advanced Electricity and Magnetism I **Units: 4**
- PHYS 222A - Quantum Mechanics I **Units: 4**
- PHYS 290 - Independent Study **Units: 1-3** [minimum 3 units]

- PHYS 298 - Project **Units: 2-6**
OR
- PHYS 299 - Thesis **Units: 2-6** [minimum 3 units]
MS students taking the PHYS 299 thesis option must also take PHYS 280 (1 unit)

Upper-division or graduate electives in physics or related field (8-9 units)

Students planning further graduate study should include PHYS 220B, and PHYS 222B in these 8 -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.

Master of Science Degree Requirements

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:

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

Grade point average (GPA) for the last 60 units (minimum 2.75)

TOEFL score: for those required to take this exam, scores of 213 (computer-based), 550 (paper-based), or 80 (Internet-based)

Official college transcript verifying completion of prerequisite courses and conferral of the bachelor's degree

Three letters of reference

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 - Biometrics in Agriculture **Units: 3**
- AGRI 201 - Agricultural Laboratory Techniques **Units: 3**
- AGRI 220 - Research Methodology and Communications **Units: 3**
- PLANT 257 - Physiology of Cultivated Plants **Units: 3**
- PLANT 270 - Seminar in Plant Science **Units: 1** (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 - Soil-Plant-Water Relations **Units: 3**
- PLANT 261 - Advanced Plant Health Management **Units: 3**
- PLANT 252 - Plant Nutrition **Units: 3**

- PLANT 255 - Advanced Plant Breeding **Units: 3**
- PLANT 250T - Topics in Plant Science **Units: 3**

Thesis Research (6 units)

- PLANT 299 - Thesis **Units: 3** (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

Non-departmental elective courses may have prerequisites other than those listed as admission requirements.

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.

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.

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.

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.

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.

See the Division of Graduate Studies section in this catalog for university requirements or visit www.fresnostate.edu/gradstudies.

Psychology, Ed.S.

Psychology Educational Specialist Degree Requirements

The Educational Specialist in School Psychology is a three-year, full-time graduate program and requires a minimum of 71 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 are eligible for the Pupil Personnel Credential with a specialization in School Psychology as granted by the California Commission on Teacher Credentialing upon completion of the Ed.S. program. Potential applicants should contact the department for application materials and additional information.

Minimum Course Requirements for the Ed.S.

- PSYCH 204 - Developmental Psychopathology **Units: 3**
- COUN 234D - Psychopharmacology **Units: 2**
- PSYCH 244A - Measurement, Research Methods & Statistics **Units: 4**
- PSYCH 267 - Internship in School Psychology **Units: 3-6** (for 12 units)
- PSYCH 274S - Multicultural Psychology **Units: 4**
- PSYCH 277 - Role and Function of the School Psychologist **Units: 4**
- PSYCH 278 - Intervention and Prevention in School Psychology **Units: 4**
- PSYCH 279 - Consultation and Supervision **Units: 4**
- PSYCH 280 - Counseling Techniques for School Psychologist **Units: 3**
- PSYCH 281 - Group Counseling in Schools **Units: 2**
- PSYCH 282 - Cognitive and Behavior Therapy **Units: 4**
- PSYCH 284 - Assessment of Intellectual Abilities **Units: 4**
- PSYCH 285 - Assessment of Learning and Developmental Problems **Units: 4**
- PSYCH 286 - Instructional Consultation and Intervention **Units: 4**
- PSYCH 287 - Practicum in School Psychology **Units: 1-2** (for 6 units)
- PSYCH 288 - Advanced Applied Behavior Analysis **Units: 4**
- PSYCH 299 - Thesis **Units: 3-6**
- OR
- PSYCH 298 - Project **Units: 3-6**
- OR
- Comprehensive Exam **Units: 0 + elective (3 units)**

Total: 71 Units

Graduate Programs

The Master of Arts in General Education, the Master of Arts in Applied Behavior Analysis, and Educational Specialist degrees in Psychology are designed to provide students with a comprehensive background in their specific area of study. Completion of the requirements for the M.A. in General Education either prepares students for positions in community college teaching, research, or entry into Ph.D. or Psy.D. programs in Psychology. Completion of the Master of Arts in Applied Behavior Analysis fulfills coursework and practicum hours to apply for the BCBA. Graduates of the Ed.S. program In School Psychology are eligible for the PPS credential in school psychology and take positions as school psychologists in schools and agencies serving children birth to 21.

Admission to both 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. School Psychology program applicants must submit 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 graduate level work. The department 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, the M.A. ABA 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. 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 pass the Psychology Department Graduate Writing Requirement. Students in the M.A. General Experimental program must also pass and the Psychology Department Statistical Proficiency Exam.

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 advisor, a coherent program is prepared and submitted, directed toward the achievement of the student's goal in graduate study.

Psychology, M.A

Master of Arts Requirements

The Master of Arts degree program in psychology may be arranged to include interest areas such as general experimental, as well as special master of arts programs for individuals. The General Experimental program is a 30-unit degree program is intended primarily to prepare graduates for entry into doctoral programs in general experimental, developmental, social, neuroscience, cognitive psychology, perception, decision making, data analytics, 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 - Measurement, Research Methods & Statistics **Units: 4**
- PSYCH 244B - Statistics and Analysis Tools Competency **Units: 1**
- PSYCH 201 - First Semester Graduate Experience **Units: 1**
- PSYCH 202 - Second Semester Graduate Experience **Units: 1**
- PSYCH 200T - Seminar in Developmental Psychology **Units: 2-4**
OR
- PSYCH 205 - Seminar in Child Development **Units: 4**
OR
- PSYCH 250T - Seminar in Personality and Related Areas **Units: 2-4**
OR
- PSYCH 255T - Seminar in Social Psychology and Related Areas **Units: 2-4**
- PSYCH 220T - Seminar in Learning and Related Problems **Units: 2-4**
OR
- PSYCH 225T - Seminar in Psychobiological Bases of Behavior **Units: 2-4**
- PSYCH 299 - Thesis **Units: 3-6**

Total (16 units)

Electives

Must include two additional courses in psychology or a related field; maximum of 6 units of independent study. Program must be approved by a graduate advisor (14 units)

Total: 30 Units

Graduate Programs

The Master of Arts in Psychology, Master of Arts in Applied Behavior Analysis, 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 all master's degrees prepares students for positions in community mental health service agencies, school settings, community college teaching, research, data analytics settings, or entry into Ph.D. or Psy.D. programs in Psychology.

Admission to Master of Arts in Psychology, Master of Arts in Applied Behavior Analysis, and Educational Specialist degrees 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. 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, 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, the M.A. in Applied Behavior Analysis 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. 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 and the Psychology Department Statistical Proficiency Exam.

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 advisor, a coherent program is prepared and submitted, directed toward the achievement of the student's goal in graduate study.

Public Administration, M.P.A.

Kurt Cline, Graduate Advisor

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.

Degree Requirements

Core (18 units)

- MPA 200 - Administration and Society **Units: 3**
- MPA 201 - Quantitative Applications for Public Administration **Units: 3**
- MPA 210 - Organizational Theory in Public Administration **Units: 3**
- MPA 230 - Public Budgeting **Units: 3**
- MPA 245 - Human Resources Management **Units: 3**
- MPA 260 - Public Policy Administration **Units: 3**

Additional Core (3 units)

- MPA 215 - State and Local Government **Units: 3**
- MPA 240 - Seminar in Public Management **Units: 3**
- MPA 250 - Ethics and Public Administration **Units: 3**
OR
- MPA 280T - Topics in Public Administration **Units: 3**

Approved Electives (3-15 units)

Practitioner's Seminars (0-6 units)

- MPA 289T - Practitioner Seminar **Units: 1-3**

Internship (0-3 units)

- MPA 287 - Internship in Public Administration **Units: 3**

Comprehensive Examination (0 units)

Thesis (0-3 units)

- MPA 299 - Thesis **Units: 3**

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 be 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 advisor 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:

- An acceptable baccalaureate degree from an institution accredited by a regional accrediting association;
- Good standing at the last college attended;
- 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
- Recommendation for admission by the Admissions Committee of the Graduate Public Administration Program. Candidates will be recommended on the basis of the promise 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 maybe 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)

Program is temporarily suspended

The Master of Public Administration (MPA) program in the Department of Political Science at California State University, Fresno is nationally accredited through NASPAA (Network of Schools of Public Policy, Affairs, and Administration).

In partnership with the Division of Continuing and Global Education, the courses will be offered at the California State University, Fresno Visalia Campus at the College of Sequoias located at the following address:

Fresno State Visalia Campus
1945 W. Meadow Ave.
Visalia, CA 93277

Mission Statement: Working within both the general vision and mission of the California State University, Fresno, the MPA program

provides educational opportunities in the area of public and nonprofit administration to those individuals seeking to improve the human condition via public service.

The MPA program prepares individuals to develop competencies that will allow them to effectively serve the public interest.

The MPA program prepares students to gain expertise in public and/or nonprofit management; to educate both elected officials and citizens about public policy tradeoffs; and to facilitate an understanding among diverse perspectives on a given policy issue.

The MPA program provides educational opportunities for individuals to have analytical and critical thinking skills; to appreciate and engage in ethical decision making; and to have the ability to communicate effectively.

Current Design of the MPA Program: The program is 36 credit-hours. Core or required courses constitute 18 of these credit-hours. Three additional credit-hours are selected from a group of courses. The remaining 15 credit-hours consist of program electives that are selected by the student in consultation with the program director.

Core Courses:

Quantitative Applications
Administration and Society
Public Organization Behavior & Dynamics
Public Budgeting
Human Resources Management
Public Policy Administration

Program Electives* Include:

State and Local Government
Ethics and Public Administration
Grant Writing
Program Evaluation

*Choice of electives depends on preferences of student, expertise of faculty, and availability of courses.

MPA Program Faculty: Instruction is provided in the program by the following California State University, Fresno faculty members: Dr. Lisa Bryant, Dr. Kurt Cline, Dr. Kathryn Forbes, Dr. Kenneth Hansen, Dr. Thomas Holyoke

Contact Information: To learn more about the Master of Public Administration Program, please contact:

California State University, Fresno
Department of Political Science
Master of Public Administration Program
2225 E. San Ramon, M/S MF 19 Fresno, CA 93740-8029

Phone: 559.278.2988

Webpage: <http://fresnostate.edu/socialsciences/polisci/degrees/ma-pubadmin.html>

Professor & MPA Program Director:
Kurt Cline
kcline@csufresno.edu
559.278.2865

See also Continuing and Global Education.

Public Health - Health Promotion Option, M.P.H.

Master of Public Health Degree Program Requirements

The Master of Public Health Program is a full-time two-year blended program in the Department of Public Health. The MPH program is accredited by the Council of Education for Public Health.

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 Health Promotion Option. The option includes a field experience and a culminating experience.

Admissions:

- In addition to meeting University entry requirements, applicants must demonstrate academic ability and preparation. Furthermore, applicants need to submit (a) three professional letters of recommendation and (b) a statement of intent.
- Once admitted to the program, the student will be assigned to a faculty advisor, and, under the advisor'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.

Curriculum

The Master of Public Health program at Fresno State has a single track in health promotion which prepares public health professionals to fulfill leadership roles in the development, promotion, application, and evaluations of educational and behavioral approaches to health.

The program consists of 42 units including:

- PH 202 - Advanced Public Health Statistics **Units: 3**
- PH 203 - Seminar in Community Health Organization **Units: 3**
- PH 206 - Environment and Occupational Health **Units: 3**
- PH 208 - Health Promotion **Units: 3**
- PH 209 - Advanced Concepts in Epidemiology **Units: 3**
- PH 210 - Introduction to Health Policy **Units: 3**
- PH 213 - Health Planning and Program Evaluation **Units: 3**
- PH 223 - Health Promotion and Policy Advocacy **Units: 1**
- PH 225I - Foundation in Health Promotion **Units: 3**
- PH 225IIS - Foundation in Health Promotion Part 2 **Units: 3**
- PH 280 - Seminar in Techniques of Health Research **Units: 3**
- PH 285 - Internship in Public Health **Units: 1-4**
- PH 297 - Professional Competencies in the Field of Public Health **Units: 2-4** (required when taking the comprehensive exam)
- PH 298 - Project **Units: 2-4**
- PH 299 - Thesis **Units: 2-4**
- 3 elective 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. Student's must demonstrate these abilities by passing the writing requirements in PH 210 . Check the program's website for the most current copy of the policy.

Culminating Experiences

A culminating experience is required of all Fresno State students earning master's degrees. This requirement is met by either completing (1) a thesis, or (2) projects, or (3) 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 will enroll in either one of the below for two units for two consecutive semesters:

- PH 297 - Professional Competencies in the Field of Public Health **Units: 2-4**
- PH 298 - Project **Units: 2-4**
- PH 299 - Thesis **Units: 2-4**

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.

Social Work, M.S.W.

Admissions Procedures

To apply for graduate study in the Department of Social Work Education, you need to apply to the university and to the department by completing the steps described below. Our deadline for application may differ from the University deadline; visit our MSW website <http://www.fresnostate.edu/chhs/social-work/masters/index.html> or contact the department office at 559.278.3992 for the current application deadline.

Step 1: Apply to the University

Submit your application online via Cal State Apply at <https://www2.calstate.edu/apply>

Follow all steps on Cal State Apply.

Step 2: Application to the Department

The MSW application is included in the Cal State Apply application. Again, follow the directions on the Cal State Apply website and it is strongly encouraged to begin the application early. The completed online application is *due January 31, 2020* and includes the following:

Department application (included in the Cal State Apply application).

Two recommendation references. References are submitted via the Cal State Apply application.

Personal Statement submitted as part of the Cal State Apply application.

(For more details, visit the department website at <http://www.fresnostate.edu/chhs/social-work/masters/requirements.html>.) and Cal State Apply <https://www2.calstate.edu/apply>.

If you have any questions regarding submitting your application, please contact the Graduate Admissions office at Fresno State: <http://fresnostate.edu/studentaffairs/are/contact-us/contact-admissions.html>

Graduate-Level Writing Requirement

The graduate writing requirement for the Master of Social Work is satisfied by passing a writing exam administered 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 appeal process, refer to the Graduate Handbook. The Graduate Handbook is available at the Department of Social Work Education website. (<http://www.fresnostate.edu/chhs/social-work/>)

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 the individual, family, 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 that includes two years of supervised internship with participating agencies in the community, and completion of a master's project or thesis. The project or thesis can focus on examination of social problems or the development of intervention strategies for the purpose of building upon the profession's knowledgebase.

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.

Advancement to Candidacy

Students accepted to the program must maintain an average GPA of 3.0 in all coursework, must file for Advancement to Candidacy after completion of 9 units, and pass the Graduate Writing Requirement. Graduation requires maintaining a 3.0GPA and submission of the Advancement to Candidacy document. A minimum of a C grade is expected in all courses.

Credential Programs

As part of the MSW, the Department of Social Work Education offers a program that satisfies the requirements for the California Pupil Personnel Services (PPS) Credential with Specializations in School Social Work and Child Welfare and Attendance. This credential authorizes the holder to provide school social work and child welfare and attendance services as an employee of a K-12 public school in the state of California. The PPS program in Social Work at Fresno State is not available as an "add on" program to another degree and is also not available as a post-graduate option for those with an MSW or another master's degree. Students interested in the PPS program will first need to apply and be admitted to the MSW program at Fresno State. Coursework and internship specific to the PPS credential are completed in the second year of the full-time MSW program. The Department of Social Work Education, in conjunction with the Kremen School of Education and Human Development, recommends candidates for a PPS credential who have met all of the requirements of the M.S.W. and PPS credential programs. Advising and admissions information are available through the P.P.S. coordinator in the Department of Social Work Education.

Master of Social Work Degree Requirements

Beginning in the Fall 2020 semester, in the 60-unit program all students are required to take the following courses:

- SWRK 200 - Social Welfare Policy I **Units: 3**
- SWRK 210 - Laws, Ethics, & Professional Issues in Social Work Practice I **Units: 1**
- SWRK 211 - Laws, Ethics, & Professional Issues in Social Work Practice II **Units: 1**
- SWRK 212 - Human Behavior in the Social Environment: A Multisystems Approach **Units: 3**
- SWRK 213 - Human Behavior and Social Environment: Cultural Diversity and Oppression **Units: 3**
- SWRK 220 - Seminar in Foundations for Social Work Practice I **Units: 3**
- SWRK 221 - Seminar in Foundations for Social Work Practice II **Units: 3**
- SWRK 222 - Advocacy in Social Work Practice **Units: 3**
- SWRK 223 - Advanced Social Work Practice with Individuals and Families **Units: 3**
- SWRK 248 - Social Work Practice with Organizations and Communities **Units: 3**
- SWRK 262 - Social Work Research Methods **Units: 3**
- SWRK 263 - Program Evaluation and Social Work Research **Units: 3**
- SWRK 280 - Field Instructed Practice I **Units: 2-3**
- SWRK 281 - Field Instructed Practice II **Units: 2**
- SWRK 282 - Advanced Field Instructed Practice I **Units: 4**
- SWRK 283 - Advanced Field Instructed Practice II **Units: 4**
- SWRK 292 - Seminar in Thesis/Project **Units: 2**

In Addition to Completing

- SWRK 298 - Project **Units: 2**
OR
- SWRK 299 - Thesis **Units: 2**

Take One of the Three Following Combinations of Classes

- SWRK 264 - Advanced Policy, Theory, & Practice in Behavioral Health & Integrated Practice Track I **Units: 3**
AND
- SWRK 265 - Advanced Practice in Behavioral Health & Integrated Practice Track II **Units: 3**
- SWRK 274 - Advanced SW Policy, Theory & Practice in Schools Track I **Units: 3**
AND
- SWRK 275 - Advanced Social Work Practice in Schools Track II **Units: 3**
- SWRK 278 - Advanced Policy, Theory, and Practice in Child Welfare Track I **Units: 3**
AND
- SWRK 288 - Advanced Child Welfare Practice Track II **Units: 3**

Total: 54 Units

The remaining 6 units may be selected from social work electives. Electives from other departments must be approved by the graduate coordinator.

Spanish, M.A.

Graduate Program Requirements

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 writing one research paper for a graduate seminar in English which is 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.

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.

Thesis/Project Plan

- SPAN 203 - Applied Literary Theory **Units: 3**
- Graduate seminars in Spanish **Units: 21-24**
- SPAN 290 - Independent Study **Units: 2-3**
- SPAN 298 - Project **Units: 3-6**
AND/OR
- SPAN 299 - Thesis **Units: 3-6**
- Electives (must see adviser) **Units: 0-6**
- Approved elective in related fields **Units: 0-3**

Select From

- SPAN 137 - Applied Spanish Linguistics **Units: 3**
- SPAN 139 - Spanish of the Southwest **Units: 3**
- SPAN 142 - Introduction to Spanish Literature **Units: 3**
- SPAN 143 - Introduction to Spanish-American Literature **Units: 3**
- SPAN 145 - Mexican Literature **Units: 3**
- SPAN 147 - Twentieth Century Spanish-American Literature **Units: 3**
- SPAN 148T - Major Themes in Hispanic Literature **Units: 3**
- SPAN 149 - The Golden Age **Units: 3**
- SPAN 150 - Twentieth Century Spanish Literature **Units: 3**

Total: 30 Units

Comprehensive Examination Plan

- SPAN 203 - Applied Literary Theory **Units: 3**
- Graduate seminars in Spanish **Units: 21 - 24**
- SPAN 290 - Independent Study **Units: 2-3**
- Approved elective in related fields **Units: 0-3**

Electives (0-6 units)

Elect from

- SPAN 142 - Introduction to Spanish Literature **Units: 3**

- SPAN 143 - Introduction to Spanish-American Literature
Units: 3
- SPAN 145 - Mexican Literature **Units: 3**
- SPAN 147 - Twentieth Century Spanish-American Literature
Units: 3
- SPAN 148T - Major Themes in Hispanic Literature **Units: 3**
- SPAN 149 - The Golden Age **Units: 3**
- SPAN 150 - Twentieth Century Spanish Literature **Units: 3**

Total: 30 Units

Special Education, M.A.

M.A. in Special Education - Requirements

Dr. William Garnett, Coordinator
Education Building, Room 341
wgarnett@csufresno.ed
<https://kremen.fresnostate.edu/masters-special-education/index.html>

Admission Requirements

In addition to the admission requirements listed in the Graduate Education Program section of this catalog, admission to the M.A. in Special Education program requires the following:

- Evidence of a minimum GPA of 3.0 on all postbaccalaureate coursework.
- Evidence of Level I/Preliminary Credential.
- An interview with the program coordinator.*
- Statement of purpose
- Three letters of recommendation

*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 - The Professional in Special Education **Units: 3**
[or equivalent - Level I Credential holders]
AND
- SPED 175 - Final Practicum in Mild/Moderate Disabilities
Units: 6 (M/M) [or equivalent]
OR
- SPED 176 - Final Practicum in Moderate/Severe Disabilities
Units: 6 (M/S) [or equivalent]
OR
- SPED 125 - Positive Behavioral and Social Supports **Units: 3**
[or equivalent - Preliminary Credential holders]

AND

- SPED 175 - Final Practicum in Mild/Moderate Disabilities **Units: 6 (M/M) [or equivalent]**
OR
- SPED 176 - Final Practicum in Moderate/Severe Disabilities **Units: 6 (M/S) [or equivalent]**
- SPED 219 - Effective Communication and Collaborative Partnerships **Units: 3**
- SPED 233 - Seminar in the Special Educator as Researcher **Units: 3**
- SPED 243 - Applications of Research Methods in Special Education **Units: 3**
- SPED 298 - Project **Units: 4**
OR
- SPED 299 - Thesis **Units: 4**

Area of Specialization (9 units)

Mild/Moderate Disabilities

- SPED 235 - Seminar in program Development and Induction: Mild/Moderate and Moderate/Severe Disabilities **Units: 3**
- SPED 236 - Seminar in Advanced and Applied Pedagogy: Mild/Moderate and Moderate/Severe Disabilities **Units: 3**
- SPED 246 - Specialized Academic Instruction for Students with Mild/Moderate Disabilities **Units: 3**

Moderate/Severe Disabilities

- SPED 235 - Seminar in program Development and Induction: Mild/Moderate and Moderate/Severe Disabilities **Units: 3**
- SPED 236 - Seminar in Advanced and Applied Pedagogy: Mild/Moderate and Moderate/Severe Disabilities **Units: 3**
- SPED 247 - Advanced Environmental Design and Instruction for Students with Moderate/Severe Disabilities **Units: 3**

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.

Speech-Language Pathology, M.A.

Speech-Language Pathology Graduate Program Requirements

The master's degree is considered essential for the professional training needed for effective practice in 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 sciences 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 CSDS 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) students with disabilities, and (3) 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 CSDS, 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

Submit your application online via Cal State Apply. You will select the Masters Degree in Speech-Language Pathology, Submit one official transcript from each college that you attended after highschool to the university. Information about submitting your transcripts to the university can be found on the Transcripts Requirement page. **Do not send transcripts to the department office.**

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 for a list of helpful links.

Step 2. Apply to the Department

You will be required to submit the following online via Cal State Apply.

Statement of Purpose (aka: Letter of Intent). See Department website for more information.

Three Letters of Recommendation. Once you enter Cal State Apply, you will be asked to provide the names and email addresses of 3 individuals who will provide letters of recommendation electronically.

Observation Hours. If you are applying to our Speech-Language Pathology program, you need to submit documentation of 25 hours of Supervised Clinical Observations. If you have completed your hours, please upload the documentation when you apply. If you have not completed your hours, you will be asked to provide documentation before starting the program.

Prerequisite Tracking Form. If you are applying to our Speech-Language Pathology program and your BA degree is from another field, please submit the SLP Prerequisite Tracking Form, found on our Departmental website.

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 Research and 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 CSDS 200 and obtaining written clearance from the instructor. If GWR clearance is denied, students may appeal to the course instructor. Please see the CSDS 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 Speech-Language Pathology. Students are encouraged to take the course during their senior year. Exceptions may be made with the consent of their faculty advisor.

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.

The Master of Arts in Speech-Language Pathology consists of 36 units of academic coursework, plus an additional **clinical core** of 22 graduate units. **Therefore, all students must take a minimum total of 58 graduate units to complete the program.**

All of these courses must be completed for the student to graduate and be eligible for state licensing and credentialing as well as the national certification.

The courses for this graduate program are as follows:

- CSDS 200 - Graduate Studies and Research Methods in Communicative Disorders **Units: 3**
- CSDS 202 - Aural Rehabilitation **Units: 3**
- CSDS 204 - Seminar in Stuttering **Units: 3**
- CSDS 207 - Seminar in Neurogenic Language Disorders **Units: 3**
- CSDS 210 - Seminar in Communicative Disorders with Orofacial Anomalies **Units: 3**
- CSDS 213 - Seminar in Motor Speech Disorders **Units: 3**
- CSDS 214 - Seminar in Child Language Disorders **Units: 3**
- CSDS 215 - Graduate Seminar in Speech Sound Disorders in Children **Units: 3**
- CSDS 216 - Seminar in Voice Disorders **Units: 3**
- CSDS 218 - Autism Spectrum Disorders and Augmentative or Alternative Communication **Units: 3**
- CSDS 220 - Introduction to Dysphagia and Traumatic Brain Injury **Units: 3**
- CSDS 221 - Seminar in Advanced Clinical Methods for Dysphagia and Traumatic Brain Injury **Units: 3**

The CLINICAL PRACTICUM includes

- CSDS 230 - Advanced Clinical Practice in Speech-Language Pathology - Three + Clinical Hrs/wk **Units: 4**
- CSDS 257 - Student Teaching: Speech-Language Pathology **Units: 1-9**
- CSDS 267 - Externship in Speech-Language Pathology **Units: 1-9**

Master of Arts Degree Requirements Speech-Language Pathology Major

- CSDS 200 - Graduate Studies and Research Methods in Communicative Disorders **Units: 3**
- CSDS 202 - Aural Rehabilitation **Units: 3**
- CSDS 204 - Seminar in Stuttering **Units: 3**
- CSDS 207 - Seminar in Neurogenic Language Disorders **Units: 3**

- CSDS 213 - Seminar in Motor Speech Disorders **Units: 3**
- CSDS 214 - Seminar in Child Language Disorders **Units: 3**
- CSDS 215 - Graduate Seminar in Speech Sound Disorders in Children **Units: 3**
- CSDS 216 - Seminar in Voice Disorders **Units: 3**
- CSDS 218 - Autism Spectrum Disorders and Augmentative or Alternative Communication **Units: 3**
- CSDS 220 - Introduction to Dysphagia and Traumatic Brain Injury **Units: 3**

Culminating Experience (6 units)

- Thesis or project **Units: 6**

Comprehensive Examination (6 units)

- CSDS 210 - Seminar in Communicative Disorders with Orofacial Anomalies **Units: 3**
- CSDS 221 - Seminar in Advanced Clinical Methods for Dysphagia and Traumatic Brain Injury **Units: 3**

Total: 36 Units

Other coursework is developed with the advisor to reflect such factors as students' desires regarding thesis or project, individual needs and desires 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. CSDS 257, CSDS 258, CSDS 267, CSDS 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 advisor.

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.

Viticulture & Enology, M.S.

M.S. in Viticulture and Enology Requirements

The Master of Science in Viticulture and Enology is a 30-unit program designed to provide advanced studies and in-depth knowledge in the fundamentals of plant physiology, microbiology, and grape and wine chemistry, as well as technical writing and formal presentation of research reports.

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 evenings.

Admission Requirements. The Master of Science in Viticulture and Enology assumes preparation equivalent to a Bachelor of Science in Viticulture and/or Enology, Agricultural Chemistry, Food Science and Nutrition, Plant Science, or a related area from an accredited institution. The following courses or equivalents are expected to be completed prior to enrollment in courses to be applied to the master's program: BIOL 11, BIOL 161; CHEM 8, CHEM 150; ENOL 125, ENOL 166; PLANT 162, PLANT 160; PLANT 71, PLANT 172; VIT 101, VIT 102.

Admission Materials. To be considered for admission to the graduate program, the candidate must submit the following materials: evidence of a baccalaureate degree in agricultural chemistry, enology, food science, nutrition, plant science, viticulture, or a related area from an accredited institution; official transcripts of all college work; official scores from the Graduate Record Exam (GRE); a university application; three letters of reference from employers or faculty at the university most recently attended; and a statement of 500 words or less indicating reasons for pursuing a master's degree.

Admission Application Filing Periods

Check the Graduate Studies section or call the Graduate Admissions Office at 559.278.2261.

Enrollment Packet Submission Deadlines

Check <http://cast.fresnostate.edu/ve>

Incomplete packets of materials will be returned to students for resubmission the following semester. Required application materials are available in the Department of Viticulture and Enology, VR 89, 559.278.2089, fax 559.278.4795. The department website is <http://cast.fresnostate.edu/ve>.

Admission Criteria: Candidates for admissions will be evaluated using criteria including undergraduate coursework, grade point average of 3.0 or better (last 60 semester units), GRE scores (480V/580Q are equivalent to the 50th percentile), 500-word or less statement of professional goals, and letters of reference. Students lacking in any area with compensating strengths in other areas are encouraged to apply. Admission by the university does not imply acceptance in the Master of Science in Viticulture and Enology program. Applicants whose preparatory education was in a language other than English must earn a minimum TOEFL score of 550 and a minimum score of 4 on the Test of Written English (TWE).

Classified standing will be granted to students who meet all of the admission criteria.

Conditional classified standing may be granted to applicants with 2.75 to 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 for M.S. in Viticulture and Enology

All students must complete a 14-unit common core. Students must also complete 12 units of approved electives and a 4-unit thesis (culminating experience) in consultation with a thesis adviser

Core (14 units)

- AGRI 200 - Biometrics in Agriculture **Units: 3**
- AGRI 220 - Research Methodology and Communications **Units: 3**
- VEN 210 - Advanced Grape and Wine Chemistry **Units: 3**
- VEN 229 - Graduate Seminar **Units: 1**
- VEN 280 - Research in Viticulture and Enology **Units: 3**

Approved Electives (10 units)

All other electives will be chosen in consultation with a faculty advisor

- VEN 250T - Topics in Viticulture and Enology **Units: 1-3**
- VEN 290 - Independent Study **Units: 1-3**

Culminating Experience (6 units)

- VEN 299 - Thesis **Units: 6**

Total Minimum Requirements: 30 Units

Graduate Advising Notes

Several of the approved elective courses have prerequisites other than courses listed as admission requirements.

To obtain the required school application form and more specific information concerning the Master of Science in Viticulture and Enology, interested students should call or write the department office. Upon acceptance into the Master of Science in Viticulture and Enology program, students should obtain the Graduate Student Handbook from the department office.

Upon acceptance into the Master of Science in Viticulture and Enology program, students will be assigned an initial faculty adviser by the department chair. Students may subsequently select a faculty adviser upon obtaining his/her approval and notifying the department office of that selection.

Elective courses are selected in consultation with the student's faculty adviser.

To progress through the graduate program, students must (a.) maintain a minimum of 3.0 GPA, (b.) complete all prerequisite coursework, (c.) attain classified standing, (d.) meet university graduate writing requirement, (e.) pass the department qualifying examination, (f.) file for advancement to candidacy, (g.) complete the program requirements, (h.) file a master's thesis committee assignment form, (i.) and satisfactorily present and defend the thesis research results.

All students must successfully complete the department qualifying examination before being advanced to candidacy. The exam should be taken as soon as possible after completing AGRI 200, AGRI 220, and PLANT 257. Information on the department preliminary examination is included in the Graduate Student Handbook.

Advancement to candidacy requires the completion of 9 program units in residence, meeting the university graduate writing requirement, passing the Viticulture and Enology Department qualifying exam, and filing a Petition for Advancement to Candidacy a minimum of one semester prior to enrollment in thesis and within the deadline.

The Graduate Writing Requirement may be met by passing the writing component of AGRI 220. Please see the program coordinator for more information.

See Division of Graduate Studies in this catalog for university requirements.

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 units from an accredited institution)

Core Classes (24 Units)

- EES 212 - Geospatial Technologies **Units: 3**
- EES 264 - Climatology **Units: 3**
- EES 265 - Hydrological System **Units: 3**
- EES 266 - Natural and Agricultural Uses of Water **Units: 3**
- EES 267 - Urban and Industrialized Water Use **Units: 3**
- EES 268 - Water and Politics **Units: 3**

- EES 269 - Environmental Policy for Water Management **Units: 3**
- EES 270 - Water Economics **Units: 3**

Internship (3 Units)

- EES 263 - Water Resource Management Internship **Units: 3**

Final Project (3 Units)

- EES 298 - Water Resource Management Project **Units: 3**

Total: 30 Units

Doctoral

Doctor of Educational Leadership CC, Ed.D. - Online

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. Applicants must also demonstrate high potential for educational leadership and scholarly achievement through professional experience, academic accomplishment, and professional recommendations.

The deadline for application to the program is in January. 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 P-12 or higher education leadership.

Program Structure. The 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. 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 3-5 days per residency). During residencies, students and faculty will engage together in community-building, orientation, advising, and non-coursework activities.

Core and specialization courses will take place online, making the online program accessible to working professionals. During the academic year, therefore, the online program will be a virtual campus experience of interactive classes, delivered online and incorporating the latest social networking tools. Courses are offered using the Canvas online platform with enhanced features. The courses use a balance of synchronous and asynchronous tools available in Canvas, in addition to email, videoconference, teleconference, and other technology as appropriate (e.g., Skype, Google Hangout, GoogleDocs). While online 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, Ed.D. - Online

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. Applicants must also demonstrate high potential for educational leadership and scholarly achievement through professional experience, academic accomplishment, and professional recommendations.

The deadline for application to the program is in January. 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 P-12 or higher education leadership.

Program Structure. The 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. 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 3-5 days per residency). During residencies, students and faculty will engage together in community-building, orientation, advising, and non-coursework activities.

Core and specialization courses will take place online, making the online program accessible to working professionals. During the academic year, therefore, the online program will be a virtual campus experience of interactive classes, delivered online and incorporating the latest social networking tools. Courses are offered using the Canvas online platform with enhanced features. The courses use a balance of synchronous and asynchronous tools available in Canvas, in addition to email, videoconference, teleconference, and other technology as appropriate (e.g., Skype, Google Hangout, GoogleDocs). While online 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

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.

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:

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.

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.

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.

Demonstrate appropriate clinical decision-making skills, including clinical reasoning, clinical judgment, differential diagnosis, reflective practice, and self-reflection/assessment.

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 Apply (www2.calstateapply.edu/apply). 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.

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.

Prerequisite Requirements for Entry-level D.P.T. Program

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:

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.

Have completed a minimum of 8/10 of the specified prerequisite courses at time of application. No more than two prerequisite courses can be in-progress during the fall term of application.

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.

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.

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.

Submit three letters of recommendation, as specified in application instructions.

Participate in a personal interview. Meeting the foregoing criteria does not guarantee an applicant an interview.

Submit grades and final transcripts from institutions other than Fresno State as soon as grades are posted.

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.

Human Anatomy and Physiology

Fresno State:

- BIOL 67A - Human Anatomy & Physiology I **Units: 4**
AND
- BIOL 67B - Human Anatomy and Physiology II **Units: 4**

Transfer:

- Human Anatomy with lab (Combined Human Anatomy and Physiology with labs accepted)

Chemistry

Fresno State:

- CHEM 1A - General Chemistry 1A **Units: 3**
AND
- CHEM 1B - General Chemistry 1B **Units: 3**
OR
- CHEM 3A - Introductory General Chemistry **Units: 4**
- CHEM 3B - Introductory Organic and Biochemistry **Units: 3**
- CHEM 3BL - Introductory Organic and Biochemistry Laboratory **Units: 1**
OR

- ? CHEM 1A - General Chemistry 1A **Units: 3**
- ? CHEM 1AL - General Chemistry Laboratory 1A **Units: 2**
- ? CHEM 1B - General Chemistry 1B **Units: 3**
- ? CHEM 1BL - General Chemistry Laboratory 1B **Units: 2**

Transfer:

- ? Inorganic and organic or biochemistry with labs

Biology

Fresno State:

- ? BIOL 10 - Life Science **Units: 3**
OR
- ? BIOL 1A - Introductory Biology **Units: 4**

Transfer:

- ? Life science biology with lab

Psychology #1

Fresno State:

- ? PSYCH 10 - Introduction to Psychology **Units: 3**
- ? PSYCH 155 - Developmental Psychology **Units: 4**

Transfer:

- ? General introductory psychology, Developmental or Lifespan

Psychology #2

Fresno State:

- ? PSYCH 66 - Abnormal Psychology **Units: 3**
OR
- ? PSYCH 169 - Psychological Aspects of Physical Disability **Units: 3**

Transfer:

- ? Psychological Aspects of Disability or Abnormal Psychology

Physics

Fresno State:

- ? PHYS 2A - General Physics **Units: 4**
AND
- ? PHYS 2B - General Physics **Units: 4**

Transfer:

- ? Physics with lab including mechanics, heat, light, sound, and electricity

Statistics

Fresno State:

- ? PH 92 - Public Health Statistics **Units: 3**
- OR**
- ? MATH 11 - Elementary Statistics **Units: 3**

Transfer:

- ? Introduction to basic statistics

Requirements for the Doctor of Physical Therapy

Core Requirements (95 units)

- ? PHTH 506 - Motor Development through the Lifespan **Units: 2**
- ? PHTH 507 - Foundations of Patient Assessment and Clinical Management in Physical Therapy I **Units: 4**
- ? PHTH 508 - Foundations of Patient Assessment and Clinical Management in Physical Therapy II **Units: 4**
- ? PHTH 511 - Anatomy of the Axial Skeleton **Units: 4**
- ? PHTH 510 - Anatomy of the Appendicular Skeleton **Units: 3**
- ? PHTH 512 - Applied Pathophysiology for Physical Therapists **Units: 3**
- ? PHTH 517 - Orthopedic Management in Physical Therapy I **Units: 4**
- ? PHTH 518 - Orthopedic Management in Physical Therapy II **Units: 4**
- ? PHTH 526 - Electrophysiologic Approaches to Patient Care **Units: 3**
- ? PHTH 527 - Applied Neurosciences **Units: 4**
- ? PHTH 528 - Management of Neurological Disorders in Physical Therapy I **Units: 4**
- ? PHTH 529 - Management of Neurological Disorders in Physical Therapy II **Units: 4**
- ? PHTH 534 - Gait and Movement **Units: 3**
- ? PHTH 533 - Functional Kinesiology for Physical Therapists **Units: 3**
- ? PHTH 536 - Physical Therapy Management of Body Systems **Units: 4**
- ? PHTH 537 - Physical Therapy Management in Pediatrics **Units: 3**
- ? PHTH 538 - Physical Therapy Management in Geriatrics **Units: 2**
- ? PHTH 539 - Physical Diagnosis **Units: 3**
- ? PHTH 546 - Physical Therapy Management of Body Systems II **Units: 3**
- ? PHTH 554S - Clinical Learning I **Units: 2**
- ? PHTH 555SA - Clinical Learning IIA **Units: 1**
- ? PHTH 555SB - Clinical Learning IIB **Units: 1**
- ? PHTH 556S - Clinical Learning III **Units: 2**
- ? PHTH 560 - Administration of Physical Therapy Services **Units: 1**

- ? PHTH 561 - Pharmacology for Physical Therapists **Units: 2**
- ? PHTH 563 - Radiology for Physical Therapists **Units: 2**
- ? PHTH 564 - Prosthetics **Units: 1**
- ? PHTH 565S - Community Outreach Wellness **Units: 1**
- ? PHTH 570 - Therapeutic Exercise and Applied Movement for Physical Therapists I **Units: 2**
- ? PHTH 571A - Therapeutic Exercise and Applied Movement for Physical Therapists IIA **Units: 1**
- ? PHTH 571B - Therapeutic Exercise and Applied Movement for Physical Therapists IIB **Units: 1**
- ? PHTH 572 - Therapeutic Exercise and Applied Movement for Physical Therapists III **Units: 2**
- ? PHTH 591 - Research Methods **Units: 3**
- ? PHTH 593 - Professional Colloquium I **Units: 2**
- ? PHTH 594 - Professional Colloquium II **Units: 1**
- ? PHTH 598 - Doctoral Project **Units: 1-3** (for 3 units over 2 semesters)
- ? PHTH 597 - Evidence Based Practice in Physical Therapy **Units: 3**

Clinic Course Requirements (15 units)*

- ? PHTH 557 - Clinical Experience I **Units: 5**
- ? PHTH 558 - Clinical Experience II **Units: 5**
- ? PHTH 559 - Clinical Experience III **Units: 5**

Total: 110 Units

*PHTH 557, PHTH 558, and PHTH 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:

- ? Classified graduate student standing.
- ? 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.
- ? Successful completion of their qualifying exam given in the spring semester of the second year. The qualifying exam consists of a written and oral proposal (Evidence-Based Practice, Research, or Advanced Clinical Case).
- ? Demonstrated required competency in clinical coursework (PHTH 554 - PHTH 559) with grade of CR or a letter grade of B or better.
- ? Demonstrated graduate-level writing proficiency. (Satisfactory completion of PHTH 591 - Research Methods will fulfill this requirement.)
- ? 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, clinical research project, or advanced clinical case.

In compliance with Federal Requirements for Posting Licensure and Certification Eligibility, please see the CSU Chancellor's Office calstate.edu website.

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.

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 - Organizational Theory in Complex Organizations **Units: 3**
- ? EDL 502 - Educational Reform **Units: 3**
- ? EDL 503 - Educational Policy Environments **Units: 3**
- ? EDL 504 - Advanced Applied Quantitative Methods **Units: 3**
- ? EDL 506 - Conceptual Curriculum Perspectives for Educational Leadership **Units: 3**
- ? EDL 507 - Applied Qualitative Research Methods **Units: 3**
- ? EDL 508 - Theorie of Cross-Cultural Education **Units: 3**

? EDL 509 - Advanced Applied Educational Research and Measurement **Units: 3**

? EDL 511 - Educational Evaluation, Assessment, and Planning **Units: 3**

Phase 2 Specialization (21 units)

? EDL 510 - Field-based Research Practicum in Organizational Settings **Units: 1-3**

? EDL 580T - Topics in Educational Leadership **Units: 1-3**

? EDL 590 - Individual Study **Units: 1-18**

Phase 3 Dissertation (12 units)

? EDL 599 - Dissertation **Units: 0-12**

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 - Organizational Theory in Complex Organizations **Units: 3**
- ? EDL 502 - Educational Reform **Units: 3**
- ? EDL 503 - Educational Policy Environments **Units: 3**
- ? EDL 504 - Advanced Applied Quantitative Methods **Units: 3**
- ? EDL 506 - Conceptual Curriculum Perspectives for Educational Leadership **Units: 3**
- ? EDL 507 - Applied Qualitative Research Methods **Units: 3**
- ? EDL 508 - Theorie of Cross-Cultural Education **Units: 3**
- ? EDL 509 - Advanced Applied Educational Research and Measurement **Units: 3**
- ? EDL 511 - Educational Evaluation, Assessment, and Planning **Units: 3**

Phase 2 Specialization (21 units)

- ? EDL 510 - Field-based Research Practicum in Organizational Settings **Units: 1-3**
- ? EDL 580T - Topics in Educational Leadership **Units: 1-3**
- ? EDL 590 - Individual Study **Units: 1-18**

Phase 3 Dissertation (12 units)

- ? EDL 599 - Dissertation **Units: 0-12**

Total: 60 Units

Nursing, D.N.P.

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). 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:

- ? The applicant must meet admission requirements for California State University, Fresno.
- ? The applicant must have earned a master's degree in nursing from an accredited institution or master's degree in a health-related field

(e.g Public Health or Health Administration), additional post-baccalaureate courses in nursing theories, research methods, transcultural nursing, and informatics will be required.

? The applicant must have attained a cumulative grade point average of at least 3.0 in an acceptable master's degree program.

? The applicant must have current, unrestricted California RN license.

? The applicant must be a U.S citizen or U.S permanent resident.

? The applicant must have National Certification in nursing specialty or obtain certification prior to the fifth semester of the DNP program.

? The applicant must demonstrate sufficient preparation and practice experience as an APN, nurse

manager/administrator/executive/educator/or experienced nurse.

Evidence considered in the admission process shall include, but not be limited to the following:

? 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.

One of the three letters of recommendations must be from the applicant's current supervisor.

? 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 completed 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.

In compliance with Federal Requirements for Posting Licensure and Certification Eligibility, please see the CSU Chancellor's Office calstate.edu website.

Credential

Administrative Services, Credential

Administrative Internship Credential (Preliminary)

Dr. Jennifer Watson, 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:

- ? Provide verification of advising.
- ? Evidence of possession of a valid basic prerequisite credential (Multiple Subject, Single Subject, Education Specialist, or Pupil Personnel Services credentials).
- ? 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:

- ? Possess a valid California teaching credential based on a bachelor's degree or a Pupil Personnel Services Credential.
- ? Verify three years of successful, full-time experience in public schools (or in private schools of equivalent status.)
- ? Complete ERE 288 (or CI 285); EAD 261, EAD 262, EAD 263, EAD 269, EAD 272, and EAD 274.
- ? Receive a passing score on the California Basic Educational Skills Test (CBEST).
- ? Pass the competency exit review.
- ? Complete a master's degree.

Administrative Services Credentials

Dr. Jennifer Watson, 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:

- ? Provide verification of advising.
- ? Evidence of possession of a valid basic prerequisite credential (Multiple Subject, Single Subject, Education Specialist, or Pupil Personnel Services credentials).
- ? 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:

- ? Possess a valid California teaching credential based on a bachelor's degree or a Pupil Personnel Services Credential.
- ? Verify three years of successful, full-time experience in public schools (or in private schools of equivalent status.)
- ? Complete ERE 288 (or CI 285); EAD 261, EAD 262, EAD 263, EAD 269, EAD 272, and EAD 274.
- ? Receive a passing score on the California Basic Educational Skills Test (CBEST).
- ? Pass the competency exit review.
- ? Complete a master's degree.

Agriculture Specialist Credential

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:

Agricultural Specialist Requirements

- ? AGED 135 - Introduction to Agricultural Education **Units: 3**
- ? AGED 150 - Agricultural Resources and Computer Applications **Units: 3**
- ? AGED 187 - Organization, Administration, and Supervision of Agricultural Education **Units: 3**
- ? AGED 189 - Education in Agricultural Mechanics **Units: 3**
- ? CI 161 - Mth Mtl Agri **Units: 3**
- ? EHD 155B - Student Teaching in Secondary School - Agricultural **Units: 5-10**
- ? AGRI 280 - Seminar in Agricultural Education **Units: 1-3**
- ? AGRI 281 - Problems in Agricultural Education **Units: 1-3**

Early Childhood - Specialist Credential

Dr. PeiYing Wu, Coordinator
Education Building, Room 25A
559.278.0052
peiwu@mail.fresnostate.edu

An Early Childhood Education Specialist Credential may be earned by those who possess an elementary teaching credential or 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, admission to the Early Childhood Education Specialist Credential program requires the following:

- ? 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.
- ? Provide verification of advisement.
- ? Statement of purpose
- ? Three letters of recommendation

Program Requirements

Under the direction of the graduate adviser, each student prepares and submits an individually designed program within the following framework:

Required Early Childhood Education Core:

- ? LEE 241 - Fieldwork in Early Childhood Education **Units: 3**

Select three Early Childhood Education Core Courses:

- ? LEE 171 - Trends and Issues in Early Childhood Education **Units: 3**
- ? LEE 232 - Literacy in Early Childhood Education **Units: 3**
- ? LEE 233 - Curriculum and Assessment in Early Childhood Education **Units: 3**
- ? LEE 271 - Diversity and Inclusion in Early Childhood Education **Units: 3**

Electives:

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)

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

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.

- ? CSDS 278 - Application of theory into Practice in Deaf Education **Units: 3**
- ? CSDS 279 - Induction Plan-based Field Experience in Deaf Education **Units: 3**

Education Specialist Deaf and Hard of Hearing - Preliminary Credential

Required CDDS courses for the Preliminary DHH Credential

- ? CSDS 95 - Introduction to Speech and Language Development **Units: 3**
- ? CSDS 114 - Education of Exceptional Children **Units: 3** or equivalent course
- ? CSDS 139 - Deaf Culture **Units: 3**
- ? CSDS 141 - Education of Deaf Children and Their Parents **Units: 3**
- ? CSDS 200 - Graduate Studies and Research Methods in Communicative Disorders **Units: 3**
- ? CSDS 201 - Working with Families with Diverse DHH Learners through Case Management **Units: 3**
- ? CSDS 202 - Aural Rehabilitation **Units: 3**
- ? CSDS 255 - Differentiated Instruction and Assessment of DHH Students **Units: 3**
- ? CSDS 260 - Advanced Clinical Practice: Deaf Education **Units: 1-6**
- ? CSDS 262 - Fundamentals of Teaching Literacy Skills **Units: 3**
- ? CSDS 263 - Fundamentals of Teaching Mathematics Literacy **Units: 3**
- ? CSDS 264 - Integration of Technology Across the Curriculum for DHH Multilingual Learners **Units: 3**
- ? CSDS 258 - Student Teaching: Deaf and Hard of Hearing **Units: 6-12**
- ? CSDS 268 - Externship with Deaf Children and Youth **Units: 6-12**
- ? LEE 172 - Cultural & Language Context of the Classroom **Units: 3**
- ? LEE 173 - Teaching Reading and Social Studies in Grades 4-8 **Units: 3**

- ? LEE 177 - Teaching Reading and the Arts in K-3 **Units: 3**
- ? CI 171 - Understanding the Learner, Instructional Design and Assessment **Units: 3**
- ? CI 175 - Science Instruction and Applied Technology **Units: 3**
- ? CI 176 - Mathematics Instruction and Applied Assessment **Units: 3**
- ? EHD 174 - Field Study A/Grades 4-8 **Units: 2**
- ? EHD 178 - Field Study B/Grades K-3 **Units: 2**

Education Specialist Mild to Moderate Support Needs - Internship Credential

Options:

- ? Mild to Moderate Support Needs
 - ? Extensive Support Needs
- Michael Mahoney, Coordinator
Education Building, Room 349
559.278.0326

The Education Specialist Credential authorizes the holder to teach students with mild/moderate or moderate/severe support needs (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 clinical practice.

The Preliminary Level I Education Specialist Credential has two areas of specialization: Mild to Moderate Support Needs and Extensive Support Needs. These areas of professional emphasis distinguish the student population with which the candidate seeks to pursue a special education career.

Requirements for Initial Admission

Please see the admission requirements posted on the Kremen School of Education and Human Development Credential Program Page

Program Completion Requirements for University and State Credentialing

Prerequisites to all programs (6 units)

- ? EHD 50 - Introduction to Teaching **Units: 3**
- ? SPED 120 - Introduction to Special Education **Units: 3**
- ? CI 100 - Educational Applications of Technology **Units: 3**
OR
- ? CI 149 - Curriculum, Instruction, and Technology in Secondary Classrooms **Units: 3**

Basic Program

Please see the admission requirements posted on the Kremen School of Education and Human Development Credential Program Page. Requirements for the Preliminary Credential can change, and subject matter tests can be revised.

Time Restrictions

Courses required for preliminary credentials must be completed no more than 10 years prior to credential application.

Education Specialist Mild to Moderate Support Needs - Preliminary Credential

See the Kremen School of Education and Human Development for Teaching Credential Programs.

Preliminary Level I Education Specialist Credential

Options:

- ? Mild to Moderate Support Needs
- ? Extensive Support Needs

See Education Specialist Mild to Moderate Support Needs - Internship Credential page for program details.

Education Specialist Moderate/Severe - Internship Credential

Teaching Internships Requirements

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:

- ? Verify admission to California State University, Fresno with a Notice of Admission or a current enrollment transcript.
- ? Verify admission to the Kremen School of Education and Human Development
- ? Demonstrate subject matter competence.
- ? Pass the California Basic Educational Skills Test (CBEST).
- ? Complete a bachelor's degree from an accredited institution.
- ? 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 - Preliminary Credential

TEACHING Special Education Requirements

Preliminary Level I Education Specialist Credential

Options:

- ? Mild/Moderate Disabilities
 - ? Moderate/Severe Disabilities
- Cheryl McDonald, Coordinator
Education Building, Room 359
559.278.0412

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.

? **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.

? **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.

? **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.

- ? Attend an Education Specialist Credential Program orientation meeting.
- ? Provide evidence of successful completion of an appropriate pre-program field experience (48 hours) or EHD 50 - Introduction to Teaching.
- ? Complete an application to the credential program. Required application materials and forms are available online at <https://kremen.fresnostate.edu/teaching-credential/credapp.html>. All admission requirements (forms, documents, prerequisites) must be completed prior to enrollment in professional program courses.
- ? 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.
- ? Provide evidence of having taken and passed all three sections of the California Subject Examinations for Teachers (CSET) Multiple Subjects. (Exception for Blended students)

- ? Verify application for admission to California State University, Fresno with a Receipt of Application or admission with a current enrollment transcript.
- ? Provide verification of a cumulative GPA of 2.67 or 2.75 on the last 60 units.
- ? Complete an Admission Interview Form and obtain an interview from a education specialist credential faculty member.
- ? Provide the signed Education Specialist Credential Program Advising Form obtained at orientation.
- ? Obtain a medical clearance at the University Health Center or from a private physician.
- ? Obtain two Letters of Recommendation written by instructors, supervisors, or other individuals in a position to recommend for admission into a teacher education program.
- ? 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 - Introduction to Teaching **Units: 3**
- ? SPED 120 - Introduction to Special Education **Units: 3**

Basic Program

SPED Core Courses (15 units)

- ? SPED 125 - Positive Behavioral and Social Supports **Units: 3**
- ? SPED 130 - Assessing Students with Special Needs **Units: 3**
- ? SPED 135 - Assessment and Instruction in the Special Education Academic Curriculum **Units: 3**
- ? SPED 145 - Special Education, Law and Ethics **Units: 3**
- ? SPED 155 - The Professional in Special Education **Units: 3**

Area of Emphasis

Multiple Subjects (14 units)

- ? EHD 178 - Field Study B/Grades K-3 **Units: 2**
- ? CI 171 - Understanding the Learner, Instructional Design and Assessment **Units: 3**
- ? LEE 172 - Cultural & Language Context of the Classroom **Units: 3**
- ? LEE 173 - Teaching Reading and Social Studies in Grades 4-8 **Units: 3**
- ? LEE 177 - Teaching Reading and the Arts in K-3 **Units: 3**

Single Subject (14 units)

- ? EHD 155A - Student Teaching in Secondary School **Units: 4**
- ? CI 151 - Social Contexts of Teaching and Learning **Units: 3**

- ? CI 152 - Adolescent Learning and Development **Units: 3**
- ? CI 159 - Curriculum and Instruction in Secondary Schools **Units: 3**
- ? LEE 172 - Cultural & Language Context of the Classroom **Units: 3**
- ? LEE 173 - Teaching Reading and Social Studies in Grades 4-8 **Units: 3**
- ? LEE 177 - Teaching Reading and the Arts in K-3 **Units: 3**

Practicum

Mild/Moderate Disabilities

- ? SPED 175 - Final Practicum in Mild/Moderate Disabilities **Units: 6**
- OR**

Moderate/Severe Disabilities

- ? SPED 176 - Final Practicum in Moderate/Severe Disabilities **Units: 6**

Total: 38-46 Units

Dual Certification

Multiple Subjects Core (33 units)

- ? EHD 110D - Initial Student Teaching: Dual **Units: 4**
- ? EHD 170 - Field Study C **Units: 9**
- ? EHD 174 - Field Study A/Grades 4-8 **Units: 2**
- ? CI 171 - Understanding the Learner, Instructional Design and Assessment **Units: 3**
- ? CI 175 - Science Instruction and Applied Technology **Units: 3**
- ? CI 176 - Mathematics Instruction and Applied Assessment **Units: 3**
- ? LEE 172 - Cultural & Language Context of the Classroom **Units: 3**
- ? LEE 173 - Teaching Reading and Social Studies in Grades 4-8 **Units: 3**
- ? LEE 177 - Teaching Reading and the Arts in K-3 **Units: 3**

Special Education Core (15 units)

- ? SPED 125 - Positive Behavioral and Social Supports **Units: 3**
- ? SPED 130 - Assessing Students with Special Needs **Units: 3**
- ? SPED 135 - Assessment and Instruction in the Special Education Academic Curriculum **Units: 3**
- ? SPED 145 - Special Education, Law and Ethics **Units: 3**
- ? SPED 155 - The Professional in Special Education **Units: 3**

Practicum (9 units)

Mild/Moderate Disabilities (9 units)

- ? SPED 175 - Final Practicum in Mild/Moderate Disabilities **Units: 6**

OR

Moderate/Severe Disabilities (9 units)

- ? SPED 176 - Final Practicum in Moderate/Severe Disabilities **Units: 6**

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 - Introduction to Teaching **Units: 3**
- ? SPED 120 - Introduction to Special Education **Units: 3**
- ? CI 100 - Educational Applications of Technology **Units: 3**

Basic Program

Semester 1:

- ? CI 171 - Understanding the Learner, Instructional Design and Assessment **Units: 3**
- ? LEE 172 - Cultural & Language Context of the Classroom **Units: 3**
- ? LEE 173 - Teaching Reading and Social Studies in Grades 4-8 **Units: 3**
- ? SPED 130 - Assessing Students with Special Needs **Units: 3**
- ? EHD 174 - Field Study A/Grades 4-8 **Units: 2**

Semester 2:

- ? LEE 177 - Teaching Reading and the Arts in K-3 **Units: 3**
- ? CI 175 - Science Instruction and Applied Technology **Units: 3**
- ? CI 176 - Mathematics Instruction and Applied Assessment **Units: 3**
- ? SPED 125 - Positive Behavioral and Social Supports **Units: 3**
- ? EHD 178 - Field Study B/Grades K-3 **Units: 2**

Semester 3:

Mild/Moderate

- ? SPED 126 - Applied Behavior Analysis **Units: 3**
- ? SPED 136 - Assessment, Curriculum Design and Instruction for Students with Mild/Moderate Disabilities **Units: 3**
- ? SPED 171 - Initial Practicum in Mild/Moderate Disabilities **Units: 3**

OR

Moderate/Severe

- ? SPED 145 - Special Education, Law and Ethics **Units: 3**
- ? SPED 146 - Assessment and Instruction for Students with Moderate/Severe Disabilities **Units: 3**
- ? SPED 172 - Initial Practicum in Moderate/Severe Disabilities **Units: 3**

Semester 4:

Mild/Moderate

- ? SPED 137 - Curriculum and Instruction for Students with Mild/Moderate and Extensive Learning Needs **Units: 4**
- ? SPED 156 - Effective Communication and Collaborative Partnerships **Units: 3**
- ? SPED 175 - Final Practicum in Mild/Moderate Disabilities **Units: 6**
- ? SPED 177 - Practicum Seminar in Mild/Moderate and Moderate/Severe Disabilities **Units: 2**

OR

Moderate/Severe

- ? SPED 156 - Effective Communication and Collaborative Partnerships **Units: 3**
- ? SPED 176 - Final Practicum in Moderate/Severe Disabilities **Units: 6**
- ? SPED 177 - Practicum Seminar in Mild/Moderate and Moderate/Severe Disabilities **Units: 2**
- ? SPED 247 - Advanced Environmental Design and Instruction for Students with Moderate/Severe Disabilities **Units: 3**

Total: 54 Units

Dual Program

Semester 1:

- ? CI 171 - Understanding the Learner, Instructional Design and Assessment **Units: 3**
- ? LEE 172 - Cultural & Language Context of the Classroom **Units: 3**
- ? LEE 173 - Teaching Reading and Social Studies in Grades 4-8 **Units: 3**
- ? SPED 130 - Assessing Students with Special Needs **Units: 3**

? EHD 174 - Field Study A/Grades 4-8 **Units: 2**

Semester 2:

- ? LEE 177 - Teaching Reading and the Arts in K-3 **Units: 3**
- ? CI 175 - Science Instruction and Applied Technology **Units: 3**
- ? CI 176 - Mathematics Instruction and Applied Assessment **Units: 3**
- ? SPED 125 - Positive Behavioral and Social Supports **Units: 3**
- ? EHD 110D - Initial Student Teaching: Dual **Units: 4**

Semester 3:

Mild/Moderate

- ? SPED 126 - Applied Behavior Analysis **Units: 3**
- ? SPED 136 - Assessment, Curriculum Design and Instruction for Students with Mild/Moderate Disabilities **Units: 3**
- ? EHD 170 - Field Study C **Units: 9**

OR

Moderate/Severe

- ? SPED 145 - Special Education, Law and Ethics **Units: 3**
- ? SPED 146 - Assessment and Instruction for Students with Moderate/Severe Disabilities **Units: 3**
- ? EHD 170 - Field Study C **Units: 9**

Semester 4:

Mild/Moderate

- ? SPED 137 - Curriculum and Instruction for Students with Mild/Moderate and Extensive Learning Needs **Units: 4**
- ? SPED 156 - Effective Communication and Collaborative Partnerships **Units: 3**
- ? SPED 175 - Final Practicum in Mild/Moderate Disabilities **Units: 6**
- ? SPED 177 - Practicum Seminar in Mild/Moderate and Moderate/Severe Disabilities **Units: 2**

OR

Moderate/Severe

- ? SPED 156 - Effective Communication and Collaborative Partnerships **Units: 3**
- ? SPED 176 - Final Practicum in Moderate/Severe Disabilities **Units: 6**
- ? SPED 177 - Practicum Seminar in Mild/Moderate and Moderate/Severe Disabilities **Units: 2**
- ? SPED 247 - Advanced Environmental Design and Instruction for Students with Moderate/Severe Disabilities **Units: 3**

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.

- ? Demonstrate subject matter competence by passing the California Subject Exam for Teachers (CSET) Multiple Subjects. (All candidates)
 - ? Complete a bachelor's degree from an accredited institution.
 - ? 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.
 - ? Pass the Reading Instruction Competence Assessment (RICA).
 - ? Pass the California Basic Educational Skills Test (CBEST). (All sections)
 - ? 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

- ? Submit a field placement information sheet by the specified deadline.
 - ? Maintain a GPA of 3.0 on all professional preparation courses.
- Requirements for Admission to Practicum (SPED 175/SPED 176)
- ? Submit an application form for SPED 175/SPED 176 by the specified deadline.
 - ? Demonstrate subject matter competence by successfully passing all three sections of the California Subject Examinations for Teachers (CSET) Multiple Subjects. (All candidates, including Blended)
 - ? 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.
 - ? If admitted as an exception with conditions, satisfy all conditions specified.
 - ? 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)

Multiple Subject Credential Program

The Multiple Subject Credential Program is housed in both the Department of Curriculum and Instruction and the Department of Literacy Early Bilingual and Special Education (LEBSE).

Program Description

The Kremen School of Education and Human Development offers the Preliminary Multiple Subject Credential. Holders of Multiple Subject Credentials are authorized to teach in culturally and linguistically diverse self-contained classrooms commonly found in elementary schools.

Career Opportunities

A Preliminary Multiple Subject Credential provides authorization to teach in a self-contained classroom for a maximum time period of five years. Preliminary credentials are cleared through a district led induction process.

Requirements for Initial Admission

- ? Provide evidence of successful completion of an appropriate pre-program field (45 hours) experience or EHD 50 - Introduction to Teaching.
- ? Complete an application to the credential program. Required application timelines and materials and forms are available online at <https://kremen.fresnostate.edu/>. All admission requirements (forms, documents, prerequisites) must be completed prior to enrollment in professional program courses.
- ? Provide evidence of having met the Basic Skills Requirement through either passing state approved examinations (e.g., passing all three subtests of the California Basic Educational Skills Test (CBEST) with a score of 41 or higher, earning specific scores on SATs or ACTs, or AP exams) OR complete an approved BSR Audit Request Form verifying approved coursework or combination of coursework and exams through a coursework.
- ? Provide evidence of having taken and passed all three sections of the California Subject Examinations for Teachers (CSET) - Multiple Subject or California Commission on Teacher Credentialing (CTC) OR have earned a degree from an approved Subject Matter Preparation Program (e.g. Liberal Studies).
- ? Complete an Admission Interview Form and complete an interview with a Multiple Subject credential faculty member. Interviews may be scheduled by completing a form requesting an interview as part of the admissions process.
- ? Provide a complete verification of a cumulative GPA of 2.67 or 2.75 on the last 60 units.

- ? Complete an Admission Interview Form and complete an interview with a Multiple Subject credential faculty member. Interviews may be scheduled by calling 559.278.0250.
- ? Obtain a TB Risk Assessment form signed and stamped by the Fresno State Student Health Center, a private physician, or an appropriate State of CA health agency.
- ? Obtain two current (within 1 year) recommendations written by instructors, supervisors, or other individuals in a position to recommend for admission into a teacher education program.
- ? Obtain a Certificate of Clearance, click on the Livescan/Certificate of Clearance Instructions.
- ? Complete Mandated Reporters Training for "School Personnel" by completing both the General Training and School Personnel Training.

Program Completion Requirements

(University and State Credentialing)

- ? 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

- ? LEE 158 - Literacy Foundation TK-8 **Units: 3**
- ? LEE 159 - Culturally and Linguistically Sustaining Pedagogy in the TK-8 Context **Units: 3**
- ? LEE 160 - Inquiry and Puzzles of Practice A **Units: 3**
- ? CI 161 - Methods and Materials in Secondary Teaching **Units: 3**
- ? CI 162 - Understanding Children, Learning, and Development in TK-8 Classrooms **Units: 3**

Phase 2

- ? CI 175 - Science Instruction and Applied Technology **Units: 3**
- ? CI 176 - Mathematics Instruction and Applied Assessment **Units: 3**
- ? LEE 166 - Disciplinary Literacies and Integrated Curriculum **Units: 3**
- ? LEE 167 - Inquiry and Puzzles of Practice B **Units: 3**
- ? EHD 178 - Field Study B/Grades K-3 **Units: 2**

Phase 3

- ? EHD 170 - Field Study C **Units: 9**
- ? EHD 170A - Field Study C Seminar **Units: 2**

? SPED 179 - Differentiated Instruction and Classroom Management **Units: 3**

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.

- ? Demonstration of subject matter proficiency by passing the California Subject Exam for Teachers (CSET) through a CTC approved Subject Matter Proficiency Program OR having earned a degree from an approved Subject Matter Preparation Program (e.g. Liberal Studies). Passing scores on the CSET are valid for ten (10) years.
 - ? Complete a bachelor's degree from an accredited institution.
 - ? 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.
 - ? Pass the Reading Instruction Competence Assessment (RICA).
 - ? Provide evidence of having met the Basic Skills Requirement through either passing state approved examinations (e.g., passing all three subtests of the California Basic Educational Skills Test (CBEST) with a score of 41 or higher, earning specific scores on SATs or ACTs, or AP exams) OR complete an approved BSR Audit Request form verifying approved coursework or combination of coursework and exams through a coursework.
 - ? 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.

Multiple Subject - Preliminary - Early Childhood Emphasis, Credential

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. Heather Horsley, ECE Coordinator, at hhorsley@mail.fresnostate.edu.

Multiple Subject - Preliminary BAP Emphasis: Hmong, Credential

The Multiple Subject ECE Bilingual Authorization Program is housed in both the Department of Curriculum and Instruction and the Department of Literacy Early Bilingual and Special Education (LEBSE).

Department of Curriculum and Instruction
Dr. Carol Fry Bohlin, Chair
Education Building, Room 250
559.278.0240

Department of Literacy Early Bilingual and Special Education
Dr. Imelda Basurto, Chair
Education Building, Room 250
559.278.0285

Multiple Subject Program
Dr. Christina Luna, Coordinator
Education Building, Rm 459
559.278.0362

For specific information, contact Kremen Advising Center at 559.278.0300.

Preliminary Multiple Subject Credential (2042)

Emphasis in Bilingual Cross-Cultural Language and Academic Development (BCLAD). Prepares teachers to work with English Learner students in their primary language. BCLAD (Hmong) will authorize teachers to provide academic instruction for English language development (ELD), primary language development, specifically designed academic instruction delivered in English (SDAIE), and content instruction delivered in the primary language.

Hmong

? HMONG 100 - Intermediate Reading and Composition **Units: 3 ***

? HMONG 101 - Advanced Reading and Composition **Units: 3**

? ANTH 123 - Peoples and Cultures of Southeast Asia **Units: 3 ***

OR

? ASAM 140 - Hmong, Laotian and Cambodian American Experience **Units: 3 ***

? LEE 129 - Hmong in Bilingual Schools: BCLAD **Units: 3 ***

? LEE 135 - Teaching Content in Hmong **Units: 3 ****

Total: 15 Units

*Courses can be taken as an undergraduate

**Course can only be taken as part of a credential program

Multiple Subject - Preliminary BAP Emphasis: Spanish, Credential

The Multiple Subject ECE Bilingual Authorization is housed in both the Department of Curriculum and Instruction and the Department of Literacy Early Bilingual and Special Education (LEBSE).

Department of Curriculum and Instruction
Dr. Carol Fry Bohlin, Chair
Education Building, Room 250
559.278.0240

Department of Literacy Early Bilingual and Special Education
Dr. Imelda Basurto, Chair
Education Building, Room 250
559.278.0285

Multiple Subject Program
Dr. Christina Luna, Coordinator
Education Building, Room 459
Dr. Lisa Bennett
559.278.0362

For specific information, contact an Kremen Advising Center at 559.278.0300.

Preliminary Multiple Subject Credential

Emphasis in Bilingual Cross-Cultural Language and Academic Development (BCLAD). Prepares teachers to work with English Learner students in their primary language. BCLAD will authorize teachers to provide academic instruction to English Learner students in their primary language.

Spanish

? CI 135 - Sociopolitical/Cultural Contexts of Latina/o/x Education and Pedagogy **Units: 3 +**

? LEE 136 - Teaching Content in Spanish **Units: 3 ***

? LEE 137 - Language and Literacy in Bilingual Education **Units: 3 +**

Total: 9 Units

+Courses can be taken as an undergraduates

* Courses can only be taken as part of the credential program

Multiple Subject - Preliminary ECE BAP Emphasis: Hmong, Credential

The Multiple Subject ECE Bilingual Authorization Program is housed in both the Department of Curriculum and Instruction and the Department of Literacy Early Bilingual and Special Education (LEBSE).

Department of Curriculum and Instruction
Dr. Carol Fry Bohlin, Chair
Education Building, Room 250
559.278.0240

Department of Literacy Early Bilingual and Special Education
Dr. Imelda Basurto, Chair
Education Building, Room 250
559.278.0285

Multiple Subject Program
Dr. Christina Luna, Coordinator
Education Building, Room 459
559.278.0362

For specific information, contact Kremen Advising Center at 559.278.0300.

Preliminary Multiple Subject Credential (2042)

Emphasis in Bilingual Cross-Cultural Language and Academic Development (BCLAD). Prepares teachers to work with English Learner students in their primary language. BCLAD (Hmong) will authorize teachers to provide academic instruction to English Learner students in their primary language.

Hmong

? HMONG 100 - Intermediate Reading and Composition **Units: 3 ***
? HMONG 101 - Advanced Reading and Composition **Units: 3**
? ANTH 123 - Peoples and Cultures of Southeast Asia **Units: 3 ***
? LEE 129 - Hmong in Bilingual Schools: BCLAD **Units: 3**
? LEE 135 - Teaching Content in Hmong **Units: 3**

Total: 15 Units

*Courses to be taken prior to applying to credential program.

Multiple Subject - Preliminary ECE BAP Emphasis: Spanish, Credential

The Multiple Subject ECE Bilingual Authorization is housed in both the Department of Curriculum and Instruction and the Department of Literacy Early Bilingual and Special Education (LEBSE).

Department of Curriculum and Instruction
Dr. Carol Fry Bohlin, Chair
Education Building, Room 250
559.278.0240

Department of Literacy Early Bilingual and Special Education
Dr. Imelda Basurto, Chair
Education Building, Room 250
559.278.0285

Multiple Subject Program
Dr. Christina Luna, Coordinator
Education Building, Room 459
559.278.0362

For specific information, contact Kremen Advising Center at 559.278.0300.

Preliminary Multiple Subject Credential (2042) Program

Emphasis in Bilingual Cross-Cultural Language and Academic Development (BCLAD). Prepares teachers to work with English Learner students in their primary language. BCLAD (Spanish) will authorize teachers to provide academic instruction to English Learner students in their primary language.

Spanish

? CI 135 - Sociopolitical/Cultural Contexts of Latina/o/x Education and Pedagogy **Units: 3 +**
? LEE 136 - Teaching Content in Spanish **Units: 3 ***
? LEE 137 - Language and Literacy in Bilingual Education **Units: 3 +**

Total: 9 Units

+Courses can be taken as an undergraduate

*Courses can only be taken as part of the credential program.

Pupil Personnel Services - School Counseling Credential

Pupil Personnel Services (PPS) Credential Requirements

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, admission to the Pupil Personnel Services Credential program requires the following:

- ? 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.
 - ? Provide evidence of having met the California Basic Skills Requirement (BSR)
 - ? Provide a valid Certificate of Clearance to participate in public school field placement activities
 - ? Statement of purpose
 - ? Three letters of recommendation
 - ? Professional Resume or Curriculum Vitae
- Following receipt of the completed packet and the review by program faculty, applicants will receive written notification regarding admission status.

Time restrictions

Courses required for the P.P.S. credential must be completed no more than 10 years prior to credential application.

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 - Laws Relating to Children **Units: 3**
- ? COUN 200 - Seminar in Counseling Techniques **Units: 3**
- ? COUN 201 - Seminar in Multicultural Aspects of Counseling **Units: 3**
- ? COUN 202 - Seminar in Group Counseling **Units: 3**
- ? COUN 203 - Seminar in Assessment in Counseling **Units: 3**
- ? COUN 206 - Counseling Through the Lifespan **Units: 3**
- ? COUN 208 - Practicum in Counseling **Units: 4**
- ? COUN 220 - Seminar in Career Development Theory **Units: 3**
- ? COUN 233 - Seminar in Therapeutic Methods with Children, Adolescents, and Their Families **Units: 3**
- ? COUN 240 - Seminar in Counseling of Exceptional Children and Their Parents **Units: 3**
- ? COUN 241 - Seminar in Organization of Counseling Services **Units: 3**
- ? COUN 242S - Seminar on Parent Education, Pupil Advocacy, and Consulting **Units: 3**
- ? COUN 249 - Field Practice in School Counseling **Units: 4-8**

- ? CI 285 - Seminar in Advanced Educational Psychology **Units: 3**

- ? Complete practicum (with a grade of B or better) and field practice.
- ? Pass the competency exit review.

Pupil Personnel Services - School Psychologist

The Department of Psychology offers the Ed.S. degree requirements coinciding with those of the Pupil Personnel Services Credential with an Advanced Specialization in School Psychology.

Application forms and advising are available through the coordinator of the School Psychology Program within the Psychology Department.

Pupil Personnel Services - School Social Work and Child Welfare and Attendance, Credential

See website for more information on programs offered by the Department of Social Work Education.

Pupil Personnel Services - School Social Work, Credential

As part of the M.S.W., the Department of Social Work Education offers a program that 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.

Reading and Literacy Leadership Specialist Credential

Dr. Imelda Basurto, Department Chair
Education Building, Room 250D
559.278.0285
ibasurto@mail.fresnostate.edu
<https://kremen.fresnostate.edu/departments-programs/lebse.html>

Program webpage:

<https://kremen.fresnostate.edu/masters-education/reading-language-arts/credential.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, admission to the Reading and Literacy Leadership Specialist Credential program requires the following:

- ? Evidence of possession of a basic teaching credential (Multiple Subject, Single Subject, or Education Specialist credentials).
- ? Evidence of having met the California Basic Skills Requirement (BSR)
- ? Statement of purpose
- ? Three letters of recommendation
- ? Minimum 2.75 GPA

Program Requirements. Under the direction of the Reading Program Coordinator, each student prepares and submits an individually designed program within the following framework:

Course Requirements:

- ? LEE 213 - Teaching the Language Arts K-12 **Units: 3**
- ? LEE 214 - Literature for Children and Adolescents **Units: 3**
- ? LEE 215 - Language Issues in Reading **Units: 3**
- ? LEE 224 - Assessment and Development of Reading Abilities **Units: 3**
- ? LEE 230 - Supervised Teaching in Reading/Language Arts **Units: 3**
- ? LEE 244 - Research for Reading Professionals **Units: 3**
- ? LEE 254 - Supervised Field Experiences in Reading **Units: 3**
- ? LEE 278 - Literacy Processes and Practices **Units: 3**
- ? LEE 234 - Clinical Experiences in Reading Assessment and Instruction **Units: 3**

Experience:

Completion of two semesters supervised field experience (LEE 230 and LEE 254) and three years of successful teaching experience at any grade level (K-12).

Total: 27 Units

School Nurse Services, Credential

School Nurse Services Credential Program

Postbaccalaureate School Nurse Services 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 School of

Nursing, in conjunction with the Division of Continuing and Global Education, 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 School of Nursing. The core school nursing classes are offered online. For more information, see the school's website at <https://chhs.fresnostate.edu/nursing/degrees-programs/certs-credentials.html>

Audiology coursework

- ? CSDS 125 - Audiometry and Audiology for School Nurses **Units: 3**

Special Education coursework

- ? SPED 120 - Introduction to Special Education **Units: 3**

Physical Assessment

- ? NURS 136 - Health Appraisal **Units: 3**

Health Teaching

- ? NURS 137 - Teaching Strategies for the Health Care Client **Units: 3 ***

School Nursing

- ? NURS 184 - Introduction to School Nursing **Units: 3 ***
- ? NURS 185 - School Nurse Seminar **Units: 3 ***
- ? NURS 186 - School Nurse Practicum I **Units: 3 ***
- ? NURS 187 - School Nurse Practicum II **Units: 3 ***

Note(s):

* Courses only available through Division of Continuing and Global Education following acceptance into the Credential Program.

Note: The use of any comparable course is contingent upon departmental approval. Upon review of transcripts, coursework taken more than 10 years ago may not be acceptable to meet program requirements.

All admission requirements must be completed prior to enrollment in any of the nursing courses.

Admission Criteria. For complete instructions, go to <https://chhs.fresnostate.edu/nursing/degrees-programs/certs-credentials.html>

Complete the Credential Program application, which is available online.

Mail to:
School Nurse Services Credential Program, 1625 E. Shaw, Suite 146,
Fresno, CA 93710

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.

Single Subject Credential - Art

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.

Credential Program-Core Courses

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.

- ? ARTH 10 - The Ancient Medieval Worlds **Units: 3**
- ? ARTH 11 - The Early Modern World **Units: 3**
- ? ART 13 - Design **Units: 3**
- ? ART 14 - 3 Dimensional Design **Units: 3**
- ? ART 21 - Figure Drawing **Units: 3**

- ? ART 24 - Beginning Printmaking **Units: 3**
- ? ART 26 - Intaglio Processes **Units: 3**
- ? ART 27 - Screenprinting **Units: 3**
- ? ART 109T - Topics in Studio Art **Units: 1-3**
- ? ART 126 - Intaglio **Units: 3**

OR

- ? ART 127 - Screenprinting **Units: 3**

- ? ART 40 - Painting **Units: 3**
- ? ART 50 - Beginning Sculpture **Units: 3**
- ? ART 60 - Beginning Ceramics **Units: 3**

- ? ART 70 - Crafts **Units: 3**

OR

- ? ART 177S - Community Crafts Workshop **Units: 1-3**

- ? ART 30 - Introduction to Photography **Units: 3**
- ? ART 182 - Large Format Photography **Units: 3**
- ? ART 183 - Extended Projects in Photography **Units: 3**

OR

- ? ART 185 - Color Photography **Units: 3**

- ? ART 37 - Introduction to Computer Art **Units: 3**
- ? ART 181 - 2-D Animation 1 **Units: 3**

OR

- ? ART 188 - Digital Video Art **Units: 3**

- ? ART 112 - Gallery Techniques **Units: 3**
- ? ART 120 - Intermediate Drawing **Units: 3**

Core Total: 42 Units

Credential Program-Breadth Courses

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.

- ? ARTH 136 - Contemporary Art **Units: 3**

- ? ARTH 120 - Italian Renaissance **Units: 3**
- ? ARTH 122 - Northern Renaissance **Units: 3**
- ? ARTH 124 - Southern Baroque **Units: 3**
- ? ARTH 126 - Northern Baroque **Units: 3**
- ? ARTH 131 - Nineteenth Century Modern Art **Units: 3**
- ? ARTH 132 - Twentieth Century Modern Art **Units: 3**

OR

- ? ARTH 109T - Topics in Art History **Units: 1-3**

- ? ARTH 160 - Africa **Units: 3**
- ? ARTH 170 - Native North American **Units: 3**
- ? ARTH 173 - Pre-Columbian Mexico **Units: 3**

OR

- ? ARTH 175 - Pre-Columbian Andes **Units: 3**

- ? ART 101 - Content and Form **Units: 3**

- ? ART 113 - Design **Units: 3**
- ? ART 116 - Advanced Color Theory **Units: 3**
- ? ART 170 - Crafts **Units: 3**

OR

- ? ART 171 - Textile Design: Dyeing and Printing **Units: 3**

- ? ART 140 - Intermediate Painting **Units: 3**

- ? ART 152 - Intermediate Sculpture **Units: 3**
- ? ART 153 - Advanced Sculpture **Units: 3**
- ? ART 155 - Sculpture: Foundry **Units: 3**
- OR**
- ? ART 160 - Intermediate Ceramics **Units: 3**

- ? ART 179 - Development of Artistic Expression **Units: 3**

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

Teaching Credential - Biology Option Requirements

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 Dr. 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 - Introductory Biology **Units: 4**
- ? BIOL 1B - Introductory Biology **Units: 3**
- ? BIOL 1BL - Introductory Biology Laboratory **Units: 1**
- ? BIOL 101 - General Ecology **Units: 3**

Chemistry (10 units)

- ? CHEM 1A - General Chemistry 1A **Units: 3**
- ? CHEM 1AL - General Chemistry Laboratory 1A **Units: 2**
- ? CHEM 1B - General Chemistry 1B **Units: 3**
- ? CHEM 1BL - General Chemistry Laboratory 1B **Units: 2**

Geology (7 units)

- ? EES 1 - Natural Disasters and Earth Resources **Units: 4**
- ? EES 168 - California's Earth System **Units: 3**

Natural Science (3 units)

- ? NSCI 106 - Reigning Theories of Science **Units: 3**

Physical Science (4 units)

- ? PSCI 21 - Elementary Astronomy **Units: 4**

Biology Option (39-41 units)

- ? CHEM 8 - Elementary Organic Chemistry **Units: 3**
- OR**
- ? CHEM 128A - Organic Chemistry **Units: 3**
- ? PHYS 2A - General Physics **Units: 4**
- ? PHYS 2B - General Physics **Units: 4** (see note 1)
- ? MATH 75 - Calculus I **Units: 4**
- ? MATH 101 - Statistical Methods **Units: 4**
- OR**
- ? PSYCH 42 - Introductory to Statistics and Data Analysis **Units: 4**
- ? BIOL 102 - Genetics **Units: 3**
- ? BIOL 103 - Cellular Biology **Units: 3**
- ? BIOL 104 - Genetics and Cell Biology Lab **Units: 1**
- ? BIOL 105 - Evolution **Units: 3**
- ? BIOL 120 - Microbiology **Units: 3**

Select One Course:

- ? BIOL 122 - Nonvascular Plants **Units: 3**
- ? BIOL 124 - Vascular Plants **Units: 4**
- ? BIOL 125 - Plant Taxonomy **Units: 4**
- ? BIOL 130 - Invertebrate Zoology **Units: 4**
- ? BIOL 131 - Parasitology **Units: 4**
- ? BIOL 132 - General Entomology **Units: 3**
- ? BIOL 133 - Natural History of Vertebrates **Units: 4**
- ? BIOL 135 - Biology of Reptiles and Birds **Units: 4**
- ? BIOL 136 - Mammalogy **Units: 3**
- ? BIOL 171 - Terrestrial Ecology **Units: 4**
- ? BIOL 172 - Aquatic Ecology **Units: 4**

Select One Course:

- ? BIOL 160 - Microbial Physiology **Units: 4**
- ? BIOL 161 - Plant Physiology **Units: 4**
- ? BIOL 162 - Comparative Animal Physiology **Units: 3**

- ? BIOL 162L - Comparative Animal Physiology Lab **Units: 1**
- ? BIOL 163 - Advanced Human Physiology **Units: 3**

General Education Requirements (49 units)

(See note 2)

Electives and Remaining Degree Requirements (4-6 units)

(see notes 2,3)

Total: 120 Units

Advising Notes for the Natural Sciences Major

? Substitutions may be made with the permission of the appropriate department chair. PHYS 4A-PHYS 4B-PHYS 4C with labs PHYS 4AL, PHYS 4BL is recommended instead of PHYS 2A-PHYS 2B for those students well-prepared for physics.

? 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.

Single Subject Credential - Chemistry

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

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

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 - <https://kremen.fresnostate.edu/departments-programs/lebse.html>.

The Single Subject Preparation Program in French is 33 Units:

- ? FREN 103 - Advanced Grammar and Composition **Units: 3**
- ? FREN 109 - French Literature, Culture, and Society from the Middle Ages to Today **Units: 3**
- ? FREN 120T - Topics in French Civilization **Units: 3 (3-6 units)**
- ? FREN 132 - French Phonology and Structural Analysis **Units: 3**
- ? FREN 150 - Advanced Conversation **Units: 3**
- ? FREN 160T - Selected Topics in French Studies **Units: 1-3 (3-6 units)**

9 units Selected From

- ? FREN 110 - French Theater **Units: 3**
- ? FREN 111 - The French Novel **Units: 3**
- ? FREN 112 - French Prose: Essay and Short Story **Units: 3**
- ? FREN 113 - French Poetry **Units: 3**

Single Subject Credential - Geo Science

Single Subject Credential - Geological Sciences Requirements

Single Subject Credential (2042)

Education Building, Room 100

559.278.0300

<http://fresnostate.edu/kremen/teaching-credential/singlesubject>

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 advisors (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. advisors may be contacted through the Kremen School of Education and Human Development Advising Center.

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

- ? Attend a Single Subject Credential program orientation meeting.
- ? Provide evidence of successful completion of an appropriate pre-program field experience (45 hours) or EHD 50 - Introduction to Teaching.
- ? 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.
- ? 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.

- ? Prove current enrollment in or application to California State University, Fresno with a receipt of application, a current enrollment transcript, or class schedule.
- ? Provide verification of a cumulative GPA of 2.67 or 2.75 on the last 60 units.
- ? Complete an Admission Interview Form and obtain an interview from a Single Subject Credential faculty member and from the subject area academic advisor.
- ? Obtain a medical clearance at the University Health Center or from a private physician.
- ? Obtain two recommendation letters written by instructors, supervisors, or other individuals in a position to recommend for admission into a teacher education program.
- ? 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

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.

- ? Complete prerequisites/corequisites and a 34-unit core of professional education courses:
 - ? Prerequisite: EHD 50
 - ? Prerequisite or corequisite: CI 149
 - ? **General Core** (see below)
 - ? 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 advisor that subject matter competency has been met.
 - ? Complete a bachelor's degree from an accredited institution in a subject matter other than education.
 - ? Pass the California Basic Educational Skills Test (CBEST).
 - ? Verify completion of CPR training.
 - ? 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.

General Core

- ? CI 151 - Social Contexts of Teaching and Learning **Units: 3**
- ? CI 152 - Adolescent Learning and Development **Units: 3**
- ? CI 161 - Methods and Materials for Teaching Science **Units: 3**
- ? LEE 156 - Content Area Literacy and Communication in Secondary Classrooms **Units: 3**
- ? LEE 157 - Teaching English Learners in Secondary Classrooms **Units: 3**
- ? SPED 158 - Differentiated Instruction in Inclusive Secondary Settings **Units: 3**
- ? EHD 154A - Initial Student Teaching Seminar **Units: 1**
- ? EHD 154B - Final Student Teaching Seminar **Units: 1**
- ? EHD 155A - Student Teaching in Secondary School **Units: 4**
- ? EHD 155B - Student Teaching in Secondary School **Units: 5-10**

Total (34 units)

Requirements for Admission to Initial Student Teaching (EHD 155A)

- ? Submit an EHD 155A application form by the specified deadline.
- ? Receive notification of initial admission to the Single Subject Credential program.
- ? 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.
- ? Complete a program advising form and have it signed by the academic area advisor and the Single Subject coordinator or Single Subject advisor.
- ? 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)

- ? Submit an EHD 155B application form by deadline.
- ? Demonstrate subject matter competence.
- ? 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.
- ? If granted an "Exception" admission, satisfy all requirements specified when the exception was granted.
- ? Show evidence of passing the California Basic Educational Skills Test (CBEST) by presenting a CBEST Permanent Verification card.
- ? 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

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 - Calculus I **Units: 4**

OR

- ? MATH 75A - Calculus with Review IA **Units: 4**

AND

- ? MATH 75B - Calculus with Review IB **Units: 4**

- ? MATH 76 - Calculus II **Units: 4**

- ? MATH 77 - Calculus III **Units: 4**

- ? MATH 101 - Statistical Methods **Units: 4**

- ? MATH 111 - Transition to Advanced Mathematics **Units: 4**

- ? MATH 116 - Theory of Numbers **Units: 4**

- ? MATH 143 - History of Mathematics **Units: 4**

- ? MATH 145 - Problem Solving **Units: 3**

- ? MATH 151 - Principles of Algebra **Units: 4**

- ? MATH 152 - Linear Algebra **Units: 4**

- ? MATH 161 - Principles of Geometry **Units: 3**

- ? MATH 171 - Intermediate Mathematical Analysis I **Units: 4**

- ? PHYS 4A - Mechanics and Wave Motion **Units: 3**

- ? CSCI 40 - Introduction to Programming and Problem Solving **Units: 4**

- ? MATH 81 - Elementary Differential Equations with Linear Algebra **Units: 3**

OR

- ? MATH 114 - Discrete Structures **Units: 3**

OR

- ? MATH 128 - Applied Complex Analysis **Units: 3**

OR

- ? MATH 165 - Differential Geometry **Units: 3**

OR

- ? MATH 172 - Intermediate Mathematical Analysis II **Units: 4**

OR

? MATH 181 - Differential Equations **Units: 3 ****

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

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

Physical Education Teaching Credential Requirements

? B.S. with option in physical education **Units: 94-97**

? Professional preparation courses **Units: 33**

Total: 127-130 Units

Single Subject Credential - Social Science

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.

Credential candidates should consult the social science credential advisor 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.

Part I. Required Core

? HIST 4 - Introduction to Historical Skills **Units: 3**

? HIST 11 - American History to 1877 **Units: 3**

? HIST 12 - American History from 1877 **Units: 3**

? HIST 20 - World History I **Units: 3**

? HIST 21 - World History II **Units: 3**

? HIST 187 - California History **Units: 3**

? GEOG 4 - World Geography **Units: 3**

? PLSI 1 - Modern Politics **Units: 3**

? PLSI 2 - American Government and Institutions **Units: 3**

Part II. Depth (27 units)

Select one course from each of the following groups:

Group A

? HIST 151 - British Empire **Units: 3**

? HIST 171 - The American Revolution, 1763-1815 **Units: 3**

? HIST 172 - Jacksonian America, 1815-1848 **Units: 3**

Group B

? HIST 174 - United States History, 1914-1945 **Units: 3**

? HIST 175 - United States History, 1945-Present **Units: 3**

Group C

? HIST 159 - The Reconstruction of America, 1865-1900 **Units: 3**

? HIST 166 - United States -- Latin American Diplomacy **Units: 3**

? HIST 176 - The Atlantic World, 1500 - 1800 **Units: 3**

? HIST 178 - History of African Americans **Units: 3**

? HIST 183 - The Hispanic Southwest **Units: 3**

Group D

? HIST 111 - Ancient Greece and Egypt **Units: 3**

? HIST 112 - Ancient Rome **Units: 3**

? HIST 122 - Medieval Culture **Units: 3**

? HIST 125 - Renaissance **Units: 3**

Group E

- ? HIST 132 - Revolutionary Europe **Units: 3**
- ? HIST 133 - Europe in the 20th Century **Units: 3**
- ? HIST 143 - Russia and Eurasia in the 20th Century **Units: 3**

Group F

- ? HIST 114 - Gender, Sexuality and the Family in the Middle East **Units: 3**
- ? HIST 157 - Modern Africa **Units: 3**
- ? HIST 160 - The Great American Civilizations: Maya, Aztec, Inca **Units: 3**
- ? HIST 162 - South America **Units: 3**
- ? HIST 192 - Modern Far East, 1949-Present **Units: 3**

Group G

- ? GEOG 127 - Global Environmental Change **Units: 3**
- ? GEOG 161 - Historical Geography of the United States **Units: 3**
- ? GEOG 166 - Geography of World Economy **Units: 3**
- ? GEOG 178 - Geography of California **Units: 3**

Group H

- ? PLSI 103 - California Politics **Units: 3**
- ? PLSI 140 - Approaches to Comparative Politics **Units: 3**
- ? PLSI 151 - Political Participation and Political Parties **Units: 3**
- ? PLSI 153 - Presidential Politics **Units: 3**
- ? PLSI 154 - Congressional Politics **Units: 3**
- ? PLSI 171 - Constitutional Law, Civil Liberties, and Civil Rights **Units: 3**

Group I

- ? ECON 101 - History of Economic Thought **Units: 3**
- ? ECON 110 - Economic History of the United States **Units: 3**

Part III. Breadth (6 units)

Select one course from two different disciplines (J-N):

- ? (J) AFRS 135 - The African American Community **Units: 3**
- ? (K) ANTH 115 - Contemporary Global Culture **Units: 3**
- ? (L) CLAS 100 - Chicano Literature **Units: 3**
- ? (L) CLAS 141 - The Chicano Family **Units: 3**
- ? (M) SOC 122 - Social Movements **Units: 3**
- ? (M) SOC 157 - Social Change **Units: 3**
- ? (M) SOC 165 - The Family **Units: 3**
- ? (M) SOC 169 - Sociology of Religion **Units: 3**
- ? (N) WGSS 103 - History of Feminisms **Units: 3**
- ? (N) WGSS 148 - Women and Religion **Units: 3**

Single Subject Credential - Spanish

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 - Department of Literacy, Early, Bilingual and Special Education.

The Single Subject Preparation Program in Spanish Consists of

- ? SPAN 117
- ? SPAN 119 - Advanced Grammar **Units: 3**
- ? SPAN 121A - Composition A **Units: 3**
- ? SPAN 121B - Composition B **Units: 3**
- ? SPAN 125 - Hispanic Cultural Productions (taught in Spanish) **Units: 3**
- OR**
- ? SPAN 129 - Mexican Culture (taught in Spanish) **Units: 3**
- ? SPAN 130
- ? SPAN 137
- ? SPAN 140 - Introduction to Literary Analysis **Units: 3**
- ? SPAN 142 - Introduction to Spanish Literature **Units: 3**
- ? SPAN 143 - Introduction to Spanish-American Literature **Units: 3**
- ? SPAN 170 - Senior Seminar in Spanish Studies **Units: 3**

6 Units Selected From

- ? SPAN 145 - Mexican Literature **Units: 3**
- ? SPAN 147 - Twentieth Century Spanish-American Literature **Units: 3**
- ? SPAN 148T - Major Themes in Hispanic Literature **Units: 3**
- ? SPAN 149 - The Golden Age **Units: 3**
- ? SPAN 150 - Twentieth Century Spanish Literature **Units: 3**

Speech-Language Pathology Services - Preliminary, Credential

Speech-Language Pathology Services Credential Requirements

Requirements to apply for the Preliminary Speech-Language Pathology Services Credential include:

- ? Completion of the requirements for the Masters' degree in Speech-Language Pathology
- ? Completion of 25 guided observation hours and 375 approved clinical clock hours, which includes placement in a school setting (CSDS 257)
- ? Completion of the basic skills requirement (CB EST)
- ? Fingerprint clearance through the California Commission on Teacher Credentialing (CCTC)

Pre-Professional

Pre-Business, B.S.

Pre-Business Requirements

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:

- ? Complete IS 52 and IS 52L or equivalent course(s) with a grade of C or better or achieve a passing score on the CSB computer competency waiver examination. Contact CSB Student Support for more information at csbstusupport@mail.fresnostate.edu.
- ? Complete the following courses or their equivalents with a grade of C or better in each course: ACCT 4A, ACCT 4B, BA 18, DS 71, DS 73, ECON 40 (or AGBS 1) and ECON 50.
- ? Have a cumulative and campus grade point average of at least 2.25.
- ? 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.
- ? CSB 150 may be substituted for CSB 50 for catalog years prior to 2005-2006.

Pre-Child and Family Science, B.S.

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 Child and Family Science 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-child and family science" students. Admission to the university does not guarantee admission to the Child and Family Science program.

Pre-Health, B.S.

Pre-Health Major

The College of Health and Human Services Pre-Health Program provides support to students exploring careers in the health and human services professions with academic advising and career exploration. The Pre-Health Program allows students interested in: Communicative Sciences - Audiology and Speech-Language Pathology options, Health Science-Community Health, Kinesiology-Exercise Science, Nursing, and Social Work to explore these majors and career pathways.

The Pre-Health Program is a three semester program that will blend in all lower division general education. Students in the Pre-Health Program can enroll in HHS 18A - Career Pathways in Health and Human Services in their first semester and HHS 18B - Career Exploration and Collaboration in Health and Human Services in their second semester to help in the exploration process. During the second semester an academic counselor will work with students' to identify a major appropriate to their career path and then in the beginning of their third semester they will apply to the major of their interest. Though HHS 18A and HHS 18B are strongly encouraged, they are not required to complete the Pre-Health major.

*SEMESTER 1 (FALL)

Select one course from each area of General Education listed below:

- ? A1 (3 units) COMM 3, COMM 7, or COMM 8
- ? A2 (3 units) ENGL 5A or ENGL 10
- ? A3 (3 units) any course
- ? B4 (3 units) any course
- ? C1 (3 units) any course
- ? HHS 18A (1 unit)

Total (16 units)

*SEMESTER 2 (SPRING)

Select one course from each area of General Education listed below:

- ? A2 (3 units) ENGL 5B
- ? B1 (4-5 units) CHEM 1A or CHEM 3A or any course (SWRK)
- ? D2 (3 units) PSYCH 10 or any ECON (SWRK) or any course
- ? ***C2 (3 units) PHIL 20 (School of Nursing), or any course
- ? D1/F (3 units) HIST 11/HIST 12 or any course Area F
- ? HHS 18B (2 unit)

Total (15-16 units)

SEMESTER 3 (FALL)

(Follow GE and major course pattern of applicable major) Select one course from each area of General Education listed below:

- ? B2 (3-4 units) BIOL 1A (KINES) or BIOL 10 (PH) or BIOL 20 (SON)
- ? E (3 units) PH 90 (SWRK&PH), KINES 32+KAC (KINES), NUTR 53/CFS 38 (SON)
- ? D1/F (3 units) HIST 11/HIST 12 or any course Area F
- ? ***C2 (3 units) PHIL 20 (School of Nursing), or any course
- ? C1\C2 (3 units) any course
- ? BIOL 20 - Introductory Microbiology Units: 4 (SON)

Total (15-16 units)

*Semester one and two courses would follow Pre-Health while semester three courses would be selected for applicable major.

**Students will apply in Semester three to continue on into selected major starting in semester four.

***Depending on which English course is taken Area C2 could be taken in Semester 2 or Semester 3.

Pre-Music, B.M.

Admission into the Pre-Music Major is a two-step process: (1) admission to the university (2) successful music audition and acceptance into an instrument or voice studio. Students may apply for admission into one of the Bachelor of Music degree options (Music Education, Instrumental Performance, Vocal Performance, Jazz Studies, or Composition) the semester during which they will complete all pre-Music Major coursework. Approval will be contingent upon satisfactory fulfillment of the prerequisites and the grade point average standard. Students who fail to complete all coursework in the Pre-Music Major and/or do not pass Jury I or the Composition Jury in two attempts will not be permitted to continue in the Pre-Music Major.

In order to gain admission and enroll in the additional music courses required for the respective options, students must do the following:

- ? Complete the following courses or their equivalents with a C or better in each course:
MUSIC 1A, MUSIC 1B, MUSIC 1C, MUSIC 1D, MUSIC 40, MUSIC 41, MUSIC 42, MUSIC 43 (16 units) MUSIC 4A, MUSIC 4B, MUSIC 4C (see note 2) (6 units)
 - ? All options other than Composition: Pass Jury I on instrument/voice; Composition option: Pass Composition Jury
 - ? Have a cumulative grade point average of at least 2.67
 - ? Submit a Change of Major Request form requesting admission into one Bachelor of Music options. Students may obtain this form from the Department of Music office in the main Music Building M134 or online at <http://www.fresnostate.edu/music>
- Exit options: Students who pass Jury I or the Composition Jury and complete all coursework in the Pre-Music Major but fail to maintain a minimum cumulative GPA of 2.67 in the Pre-Music Major will be allowed to continue in the Bachelor of Arts Music as a Liberal Art degree

Criteria for retention, progression, and graduation from the Bachelor of Music include a minimum grade of C in each required music course. Music courses may be repeated only once to achieve a C

grade. Any student who receives less than a C grade after their second attempt will not be permitted to continue in the Bachelor of Music major, but may continue in the Bachelor of Arts - Music as a Liberal Art degree.

Advising Notes

- ? All students majoring in music (Pre-Music Major, Bachelors of Music, and Bachelors of Arts in Music) receive mandatory advising each semester with a faculty advisor assigned by discipline. Students may not register for classes until they have received their advising.
- ? Students with an instrumental emphasis in Piano take MUSIC 14 and MUSIC 114 (4-units total) in lieu of MUSIC 4A, MUSIC 4B, and MUSIC 4C.
- ? Pre-Music Major courses must be taken in the following sequence: MUSIC 1A, MUSIC 1B, MUSIC 1C, and MUSIC 1D; MUSIC 4A, MUSIC 4B, and MUSIC 4C; MUSIC 40, MUSIC 41, MUSIC 42, and MUSIC 43. It is recommended that incoming students take MUSIC 1A, MUSIC 4A, and MUSIC 40 concurrently to ensure successful completion of all Pre-Music Major coursework by the end of their sophomore year.

Pre-Psychology, B.S.

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-Veterinary Preparation Specialization, B.S.

Pre Veterinary Admissions Prerequisite 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 Pre-veterinary 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:

- ? 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
- ? CHEM 1A - General Chemistry 1A and CHEM 1AL - General Chemistry Laboratory 1A
- ? Have a cumulative grade point average of at least 3.2
- ? 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 <http://fresnostate.edu/studentaffairs/registrar/forms/index.html>

Minor

Accounting, Minor

Accounting Minor Requirements (14 units)

- ? ACCT 4A - Financial Accounting Principles and Systems **Units: 3**
- ? ACCT 4B - Managerial Accounting Principles and Systems **Units: 3**
- ? ACCT 120A - Intermediate Accounting I **Units: 4**
- ? ACCT 120B - Intermediate Accounting II **Units: 4**

Select Upper-Division Courses From: (7-8 units)

- ? ACCT 132 - Cost Accounting **Units: 4**
- ? ACCT 144 - Tax Accounting and Planning **Units: 4**
- ? ACCT 145 - Federal Income Taxation of Entities and the Federal Uniform Estate and Gift Tax **Units: 4**
- ? ACCT 146S - Accounting Information Systems and Controls SL **Units: 4**
- ? ACCT 148 - Accounting for Governmental and Nonprofit Organizations **Units: 4**
- ? ACCT 162 - Auditing **Units: 4**
- ? ACCT 165 - International Accounting **Units: 4**
- ? ACCT 167 - Advanced Accounting Problems **Units: 4**
- ? ACCT 169 - Forensic Accounting **Units: 4**
- ? ACCT 187 - Accounting Ethics and Professional Responsibilities **Units: 3**

Total: 21-22 Units

Advising Notes

- ? Students must earn a grade of at least C in each course.
- ? All minors also require a 2.0 GPA and 6 upper-division units in residence.
- ? 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."
- ? Not open to Pre-Business or Business Administration majors.

Advertising and Publication Relations, Minor

Advertising and Public Relations Minor Requirements

The Advertising and Public Relations minor brings students and faculty together to learn about the background, exploration, and skills needed to engage and persuade today's audiences. Students gain experience in research, strategic development, and creative execution. The Minor in Advertising and Public Relations is an 18-unit program, with at least 12 upper-division units taken in residence. Students in the minor must maintain a minimum GPA of 2.5 overall, with a "C" or better in the MCJ minor classes. MCJ majors in options other than Advertising and Public Relations will not be required to take MCJ 2 or MCJ 40 as they will have taken those courses already. Courses taken for the minor may count toward fulfilling General Education requirements, but not toward fulfilling the student's major.

Lower-Division Courses (6 units)

- ? MCJ 2 - Media Writing **Units: 3**
- ? MCJ 40 - Introduction to Advertising and Public Relations **Units: 3**

Upper-Division Courses (3 units)

- ? MCJ 144 - Writing to Influence **Units: 3**

Pick Three Courses From Below: (9 units)

- ? MCJ 143 - Media Sales **Units: 3**
- ? MCJ 146 - Media Planning **Units: 3**
- ? MCJ 147S - Digital and Social Media **Units: 3**
- ? MCJ 150 - Strategic Political Campaigns **Units: 3**
- ? MCJ 157 - Public Relations and Advertising Agency **Units: 3**
- ? MCJ 158W - Advanced Writing to Influence **Units: 3**
- ? MCJ 180 - Water and Strategic Media **Units: 3**

- ? MCJ 191I - Internship **Units:** 1-3
- ? MCJ 199 - Capstone **Units:** 4

Total: 18 Units

For more information and advising, contact the Department of Media, Communications, and Journalism 559.278.2087.

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)

Select from:

- ? AFRS 10 - Introduction to Africana Studies: Beginnings, Political Struggle, and Academic Warfare **Units:** 3
- ? AFRS 27 - Black Popular Culture **Units:** 3
- ? AFRS 36 - Contemporary African Societies **Units:** 3

Upper-Division Requirements (6 units)

- ? AFRS 137 - African American Women **Units:** 3
- ? AFRS 144 - Race Relations **Units:** 3

Approved Africana Studies Electives (6 units)

Total (18 units)

Note: For students interested in the general dimensions of the African experience, the following courses are recommended:

- ? AFRS 10 - Introduction to Africana Studies: Beginnings, Political Struggle, and Academic Warfare **Units:** 3
- ? AFRS 27 - Black Popular Culture **Units:** 3
- ? AFRS 36 - Contemporary African Societies **Units:** 3

- ? AFRS 38 - Sociology of the Black Experience **Units:** 3
- ? AFRS 135 - The African American Community **Units:** 3
- ? AFRS 137 - African American Women **Units:** 3
- ? AFRS 140 - The African American Church **Units:** 3
- ? AFRS 145 - Life and Times of Martin Luther King Jr. **Units:** 3
- ? AFRS 150 - South Africa **Units:** 3

For students interested in the following careers, the following courses are recommended:

Education:

- ? AFRS 38 - Sociology of the Black Experience **Units:** 3
- ? AFRS 130T - Topics in Ethnic Studies **Units:** 1-3
- ? AFRS 135 - The African American Community **Units:** 3

Performing Arts:

- ? AFRS 21 - Gospel Choir **Units:** 1
- ? AFRS 24 - African American Music **Units:** 3
- ? AFRS 27 - Black Popular Culture **Units:** 3
- ? AFRS 35 - Art and Music of Africa **Units:** 3
- ? AFRS 121 - Gospel Choir **Units:** 1
- ? AFRS 130T - Topics in Ethnic Studies **Units:** 1-3
- ? AFRS 144 - Race Relations **Units:** 3
- ? AFRS 189 - Fieldwork in Community Relations **Units:** 3

Business:

- ? AFRS 38 - Sociology of the Black Experience **Units:** 3
- ? AFRS 130T - Topics in Ethnic Studies **Units:** 1-3
- ? AFRS 135 - The African American Community **Units:** 3
- ? AFRS 189 - Fieldwork in Community Relations **Units:** 3
- ? AFRS 190 - Independent Study **Units:** 1-3

Preprofessional (Nursing, Criminology, Prelaw, etc.):

- ? AFRS 56 - The African American Family **Units:** 3
- ? AFRS 130T - Topics in Ethnic Studies **Units:** 1-3
- ? AFRS 135 - The African American Community **Units:** 3
- ? AFRS 144 - Race Relations **Units:** 3
- ? AFRS 146 - Law and the Minority Community **Units:** 3
- ? AFRS 189 - Fieldwork in Community Relations **Units:** 3
- ? AFRS 190 - Independent Study **Units:** 1-3

Writing:

- ? AFRS 104W - Writing About American Inequality **Units:** 3
- ? AFRS 190 - Independent Study **Units:** 1-3

Social Sciences:

- ? AFRS 27 - Black Popular Culture **Units: 3**
- ? AFRS 38 - Sociology of the Black Experience **Units: 3**
- ? AFRS 135 - The African American Community **Units: 3**
- ? AFRS 140 - The African American Church **Units: 3**
- ? AFRS 178 - History of African Americans **Units: 3**
- ? AFRS 189 - Fieldwork in Community Relations **Units: 3**

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

- ? AGBS 1 - Introductory Agricultural Economics **Units: 3**
- ? AGBS 31 - Farm Accounting **Units: 3**
- ? AGBS 100 - Intermediate Agricultural Economics **Units: 3**
- ? AGBS 130 - Agricultural Finance **Units: 3**
- ? AGBS 120 - Agribusiness Management **Units: 3**
- ? AGBS 110 - Farm Management **Units: 3**
- OR**
- ? AGBS 124 - Food and Fiber Industry Management **Units: 3**
- ? AGBS 160 - Agricultural Marketing Analysis **Units: 3**
- ? AGBS 150 - Agricultural and Food Policy **Units: 3**

Total (24 units)

Note: The Agricultural Business Minor also requires a 2.0 GPA and 6 upper-division units in residence.

Advising Notes

- ? University policy states that courses fulfilling requirements for a minor may be counted toward General Education.
- ? Students pursuing a minor are expected to have basic computer competencies (AGBS 76 recommended) and fundamental quantitative reasoning skills (MATH 11 or MATH 75 recommended) before enrolling in the required upper-division courses.
- ? The department waives AGBS 1, AGBS 31, AGBS 120, and AGBS 130 for students who have already received credit for ECON 40, ACCT 4A, MGT 104 or MGT 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."
- ? Concerning the course selections to satisfy the production operations core requirement, consult with the minor adviser about which choices match your career plans.
- ? All courses in the minor must be taken for a letter grade; CR/NC grading is not acceptable.

Prerequisite Notice

- ? **Agricultural business majors** must complete the lower-division business management base courses (AGBS 2, AGBS 28, AGBS 31, AGBS 32, AGBS 71, AGBS 76) and the lower-division additional requirements to the major in General Education Foundation Area B4 (MATH 11 or MATH 75) and Breadth Area D2 (AGBS 1) before enrolling in upper-division AGBS courses.
- ? **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, AGBS 31, and AGBS 76 before enrolling in any upper-division AGBS courses. Note: MATH 11 or MATH 75 or their 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

Lower-Division Requirements (6 units)

- ? AIS 5 - American Indian History **Units: 3**
- ? AIS 50 - Contemporary Life of the American Indian **Units: 3**

Upper-Division Requirements (6 units)

- ? AIS 103 - California American Indians **Units: 3**
- ? AIS 170 - Experience in American Indian Community **Units: 3**

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 program 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.

Neum Native American Student Association (NASA)

Neum NASA is a student organization open to all Indigenous and non-Indigenous students. They sponsor activities and host events to help raise awareness for a better understanding of the Native American community by promoting mutual respect among all people. Formerly First Nations, the club started in 1969 as the Tewaquachi American Indian Club. In 1983, Tewaquachi sponsored the first annual American Indian Heritage Week and Fresno State PowWow. These events helped promote Fresno as a focal point in the San Joaquin Valley for Native American people to unite and work together uplift ing the culture and welfare of the Native American students and community. Today, the Native American Student Association carries on the tradition of hosting the annual Fresno State Pow Wow on our campus and actively seeks to raise the social consciousness by creating an environment of awareness and understanding of all Native American people.

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 - Introduction to Animal Science **Units: 3**
- ? ASCI 21 - Beef Cattle Production **Units: 3**
- ? ASCI 31 - Swine Production **Units: 3**
- ? ASCI 41 - Sheep Production **Units: 3**
- ? ASCI 51 - Horse Production **Units: 3**
- ? ASCI 61 - Dairy Cattle Production **Units: 3**
- ? ASCI 71 - Meat Science **Units: 3**

Select from:

- ? ASCI 11 - Meat Animal Selection and Evaluation **Units: 3**
- ? ASCI 35 - Feeds and Feeding **Units: 3**
- ? ASCI 65 - Introduction to Animal Health **Units: 3**

Select from:

- ? ASCI 101 - Environmental Management of Farm Animals **Units: 3**
- ? ASCI 125 - Animal Genetics **Units: 3**
- ? ASCI 135 - Animal Nutrition **Units: 3**
- ? ASCI 145 - Anatomy and Physiology of Farm Animals **Units: 4**
- ? ASCI 155 - Animal Reproduction **Units: 3**
- ? ASCI 165 - Infectious Diseases of Domestic Animals **Units: 3**

Select from:

- ? ASCI 121 - Advanced Beef Management **Units: 3**
- ? ASCI 131 - Advanced Swine Management **Units: 3**
- ? ASCI 151 - Advanced Horse Management **Units: 3**
- ? ASCI 161 - Advanced Dairy Farm Management **Units: 3**
- ? ASCI 171 - Advance Meat Science **Units: 3**

Total: 21-22 Units

Note: The Animal Sciences Minor also requires a 2.0 GPA and 6 upper-division units in residence.

Advising Notes

- ? Complete an Animal Sciences Minor advising sheet with a faculty adviser for selection of courses.
 - ? Courses in a major cannot be applied toward a minor unless designated as additional requirements.
 - ? All courses in the minor must be taken for a letter grade. CR/NC grading is not acceptable.
 - ? 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 - Introduction to Cultural Anthropology **Units: 3**
- ? ANTH 3 - Introduction to Prehistory and Physical Anthropology **Units: 3**
- ? ANTH 115 - Contemporary Global Culture **Units: 3**
OR
- ? ANTH 140 - Contemporary Archaeology **Units: 3**
OR
- ? ANTH 167 - Human Evolutionary Theory **Units: 3**

B. Elective Curriculum (9 units)

- ? Three upper-division Anthropology courses **Units: 9**

Total: 18 Units

See Advising Note 1 above.

Note: The Anthropology Minor also requires a 2.0 GPA and 6 upper-division units in residence.

Armenian Studies, Minor

Armenian Studies Minor Requirements

Select from (6-8 units)*

- ? ARM 1A - Elementary Armenian **Units: 4**
- ? ARM 1B - Elementary Armenian **Units: 4**
- ? ARM 2A - Intermediate Armenian **Units: 3**
- ? ARM 2B - Intermediate Armenian **Units: 3**

Remaining requirements

- ? ARMS 10 - Introduction to Armenian Studies **Units: 3**
- ? ARMS 20 - The Arts of Armenia **Units: 3**
- ? ARMS 120T - Topics in Armenian Studies **Units: 1-3**
- ? ARM 148 - Masterpieces of Armenian Culture **Units: 3**
- ? ARMS 108A - Armenian History I: Ancient and Medieval **Units: 3**
OR
- ? ARMS 108B - Armenian History II: Modern and Contemporary **Units: 3**

Total: 21-23 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.

Upper-Division Honors Certificate

The Armenian Studies Upper-Division Honors Program provides the opportunity for highly qualified, advanced Armenian Studies Program students to pursue the Upper-Division Honors Certificate in Armenian Studies. Please see Upper-Division Honors Certificate.

Art History, Minor

Art History Minor Requirements

The Minor in Art History consists of 15 units in Art History, of which at least 9 units must be upper-division. Art History courses taken to satisfy the minor must be letter-graded.

Required Courses

- ? Upper-Division (100-level) Art History coursework **Units: 9**
- ? Art History electives **Units: 6**

Total: 15 Units

Note: The Art History Minor also requires a 2.0 GPA and 6 upper-division units in residence. Students majoring in Art may not apply Art History coursework required for the B.A. in Art toward the Minor in Art History.

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 - The Ancient Medieval Worlds **Units: 3**
AND
- ? ARTH 11 - The Early Modern World **Units: 3**
- ? ART 13 - Design **Units: 3**
AND
- ? ART 20 - Drawing **Units: 3**
- ? ARTH elective (upper division) **Units: 3**
- ? ARTH or studio electives (upper division) **Units: 6**

Total: 21 Units

Note: The Art Minor also requires a 2.0 GPA and 6 upper-division units in residence.

Asian American Studies, Minor

Minor in Asian American Studies 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.

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 further information about the Asian American Studies Program, contact the coordinators at 559.278.3002, or write to:

Asian American Studies Program
c/o Department of Anthropology
California State University, Fresno
Fresno, CA 93740

Category I. (6 units)

Select from:

- ? ASAM 7 - Biracial, Multiracial and Adopted Asian Americans **Units: 3**
- ? ASAM 8 - Asian American Community Health **Units: 3**
- ? ASAM 10 - Asian American Newspapers and Mass Media **Units: 3**
- ? ASAM 15 - Introduction to Asian Americans **Units: 3**
- ? ASAM 20 - Asian Americans in Media and Popular Culture **Units: 3**
- ? ASAM 50 - Contemporary Asian American Issues **Units: 3**
- ? ASAM 88 - Asian American Critical Thinking **Units: 3**

Category II. (6 units)

- ? ASAM 108 - Jain, Hindu, and Asian American Religions **Units: 3**
- ? ASAM 110 - Asian American Communities **Units: 3**
- ? ASAM 110S - Asian American Communities Service-Learning **Units: 3**
- ? ASAM 120 - Race and Ethnic Relations in the U.S. **Units: 3**
- ? ASAM 138 - Asian American Women **Units: 3**
- ? ASAM 140 - Hmong, Laotian and Cambodian American Experience **Units: 3**
- ? ASAM 143 - Asian American Literature **Units: 4**
- ? ASAM 180T - Topics in Asian American Studies **Units: 3**
- ? ASAM 190 - Independent Study **Units: 1-3**

Category III. (6 units)

- ? ASAM 108 - Jain, Hindu, and Asian American Religions **Units: 3**
- ? ASAM 151W - Asian Eats: Asian American Foodways **Units: 3**
- ? ASAM 161W - Asian Americans in the Caring Fields **Units: 3**
- ? ASAM 121 - Asian American Marriage and Family **Units: 3**
- ? ASAM 148 - Asian and Asian American Film and Video **Units: 3**
- ? ASAM 175 - Anime, Graphic Novel, K-Pop and Asian Cultural Studies **Units: 3**
- ? ASAM 180T - Topics in Asian American Studies **Units: 3**
- ? ASAM 185 - Asian American Politics, Education and Theory **Units: 3**
- ? ASAM 190 - Independent Study **Units: 1-3**
- ? ASAM 195 - Diversity in the United States: Race and Gender Issues **Units: 3**

Total: 18 Units

Note: The minor also requires a 2.0 GPA and 6 upper-division units in residence.

Astronomy, Minor

Astronomy Minor - Requirements

- ? PHYS 150 - Astrophysics **Units: 3**
- ? PHYS 151 - Observational Astronomy **Units: 4**
- ? Remaining requirements **Units: 6**

Choose Two Courses

- ? EES 112 - Planet Earth through Time **Units: 3**
- OR**
- ? EES 150T - Studies in Earth Science **Units: 1-3**
- ? PHYS 110 - Physical Optics **Units: 3**
- ? PHYS 136 - Radiation Physics **Units: 3**
- ? PHYS 137 - Radiation Measurements Laboratory **Units: 3**
- ? PHYS 175T - Topics in Contemporary Physics **Units: 1-4**
- OR**
- ? PHYS 190 - Independent Study **Units: 1-3** by approval

Total: 13 Units

Notes

Prerequisites may include MATH 75, MATH 76, MATH 77, MATH 81, PHYS 4A, PHYS 4AL, PHYS 4B, PHYS 4BL, PHYS 4C, and PHYS 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 21-unit biology core:

- ? BIOL 1A - Introductory Biology **Units: 4**
- ? BIOL 1B - Introductory Biology **Units: 3**
- ? BIOL 1BL - Introductory Biology Laboratory **Units: 1**
- ? BIOL 101 - General Ecology **Units: 3**
- ? BIOL 102 - Genetics **Units: 3**
- ? BIOL 103 - Cellular Biology **Units: 3**
- ? BIOL 105 - Evolution **Units: 3**
- ? BIOL 101L - General Ecology Lab **Units: 1**
- OR**
- ? BIOL 104 - Genetics and Cell Biology Lab **Units: 1**

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 - General Chemistry 1A **Units: 3**
- ? CHEM 1AL - General Chemistry Laboratory 1A **Units: 2**
- ? CHEM 1B - General Chemistry 1B **Units: 3**
- ? CHEM 1BL - General Chemistry Laboratory 1B **Units: 2**
- OR**
- ? CHEM 3A - Introductory General Chemistry **Units: 4**

Organic Chemistry

- ? CHEM 8 - Elementary Organic Chemistry **Units: 3**
- OR**
- ? CHEM 128A - Organic Chemistry **Units: 3**
- ? CHEM 128B - Organic Chemistry **Units: 3**
- ? CHEM 129A - Organic Chemistry Laboratory **Units: 2**

Quantitative Analysis

- ? CHEM 105 - Quantitative Analysis Laboratory **Units: 4**

Those students requiring additional upper-division chemistry units may

choose from courses such as the following:

- ? CHEM 125 - Applied Analytical Techniques **Units: 3**
- ? CHEM 150 - General Biochemistry **Units: 3**
- ? CHEM 155A - Fundamentals of Biochemistry **Units: 3**
- ? CHEM 155B - Physiological Chemistry and Metabolism **Units: 3**
- ? CHEM 156 - Biochemical Laboratory Techniques **Units: 3**

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 - Introduction to Chicano/Latino Studies **Units: 3**
- ? CLAS 5 - Chicanx Culture and History **Units: 3**
- AND**
- ? CLAS 9 - Chicano Artistic Expression **Units: 3**
- ? CLAS upper-division or acceptable substitutes **Units: 9**

Total: 18 Units

Minor Advising Notes

- ? Special topics or directed reading courses must have subject matter dealing with Latin America, the Caribbean, or must focus on issues affecting those areas.
- ? Courses taken to complete major requirements cannot be double-counted for the minor.

- ? Courses taken to complete General Education Integration requirements can be double-counted for the minor.
- ? 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, CFS 39, and CFS 153. The remaining coursework for the minor will be determined in consultation with an advisor, and must be certified by the student's CFS advisor and the department chair. The certified minor program is filed with the university's Undergraduate Degree Evaluations once all minor coursework is completed. Some CFS courses (CFS 37, CFS 130W, CFS 139, CFS 140, CFS 145A, CFS 145B, CFS 193I) 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

- ? CHIN 1A - Elementary Chinese 1A **Units: 4**
- ? CHIN 1B - Elementary Chinese **Units: 4**
- ? CHIN 2A - Intermediate Chinese **Units: 3**
- ? CHIN 2B - Intermediate Chinese **Units: 3**
- ? CHIN 100 - Advanced Chinese **Units: 3**

Approved Elective (3 units)

Select from

- ? AH 105 - Arts and Humanities Study Abroad Experience **Units: 3**
- ? ANTH 124 - Peoples and Cultures of East Asia **Units: 3**
- ? ANTH 125 - Tradition and Change in China and Japan **Units: 3**

Total: 20 Units

Note: The minor also requires a 2.0 GPA and 6 upper-division units in residence.

City and Regional Planning, Minor

The City and Regional Planning Minor consists of 21 units of urban planning and geography courses as well as courses related to urban

issues from other departments in the College of Social Science. The minor degree provides exposure to urban and regional issues in American cities and how urban and regional planning can help to address these problems.

Coordinator: Consult department chair, Geography Department.

Faculty Advisers: Undergraduate advisors of the Geography Department, Anthropology Department, and Sociology Department.

Required Courses

Concepts and Issues* (9 units)

- ? CRP 80 - Introduction to Cities and Urban Planning **Units: 3**
- ? CRP 125 - Environmental Planning **Units: 3**
- ? CRP 110 - Planning Process and Theory **Units: 3**
- ? CRP 120 - Community Development Theory & Practice **Units: 3**

OR

- ? SOC 163 - Urban Sociology **Units: 3**

Methods and Techniques* (6-9 units)

Select from the following list of courses:

- ? CRP 130 - Transportation Planning **Units: 3**
- ? CRP 140 - Economics for Planners **Units: 3**
- ? GEOG 30 - Introduction to Spatial Statistics **Units: 3**
- ? GEOG 132 - United States Environmental Law **Units: 3**
- ? GEOG 141 - GIS I: Data Display and Manipulation **Units: 3**
- ? PLSI 90 - Methods of Analysis of Quantitative Political Data **Units: 3**
- ? SOC 175 - Quantitative Research Methods in Sociology **Units: 4**

Electives (3-6 units)

With the approval of a program advisor, select 3-6 units the following list of courses:

- ? AFRS 1 - Ethnic Experience **Units: 3**
- ? AFRS 104W - Writing About American Inequality **Units: 3**
- ? AFRS 135 - The African American Community **Units: 3**
- ? ANTH 120 - Race and Ethnic Relations in the U.S. **Units: 3**
- ? BA 154 - Real Estate Law **Units: 3**
- ? CLAS 3 - Introduction to Chicano/Latino Studies **Units: 3**
- ? CRIM 2 - Administration of Justice **Units: 3**
- ? CRP 110 - Planning Process and Theory **Units: 3**
- ? CRP 115 - Urban Design **Units: 3**
- ? CRP 120 - Community Development Theory & Practice **Units: 3**
- ? CRP 130 - Transportation Planning **Units: 3**
- ? CRP 135 - Planning Law & Administration **Units: 3**
- ? CRP 140 - Economics for Planners **Units: 3**
- ? CRP 150A - Community Plan Making - A **Units: 3**
- ? CRP 150B - Community Plan Making - B **Units: 3**
- ? CRP 191T - Topics in Urban Planning Techniques **Units: 1-3**

- ? ECON 40 - Principles of Microeconomics **Units: 3**
- ? ECON 50 - Principles of Macroeconomics **Units: 3**
- ? FIN 180 - Real Estate Principles **Units: 3**
- ? GEOG 128 - Environmental Pollution **Units: 3**
- ? GEOG 132 - United States Environmental Law **Units: 3**
- ? GEOG 141 - GIS I: Data Display and Manipulation **Units: 3**
- ? GEOG 142 - GIS II: Data Creation and Project Implementation **Units: 3**
- ? GEOG 143 - GIS III: Spatial Analysis and Modeling **Units: 3**
- ? GEOG 160 - Urban Geography **Units: 3**
- ? GEOG 190 - Independent Study **Units: 1-3**
- ? GEOG 192 - Directed Readings **Units: 1-3**
- ? PLSI 90 - Methods of Analysis of Quantitative Political Data **Units: 3**
- ? PLSI 103 - California Politics **Units: 3**
- ? PLSI 160 - State and Local Governments **Units: 3**
- ? PLSI 163 - Municipal Government **Units: 3**
- ? PLSI 181 - Public Administration **Units: 3**
- ? SOC 111 - Sociology of Race and Ethnicity **Units: 3**
- ? SOC 131 - Sociology of Sex and Gender **Units: 3**
- ? SOC 163 - Urban Sociology **Units: 3**
- ? SSCI 185I - Internship **Units: 1-6** (Senior students may Select internship for credit up to 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 minors also require a minimum of 2.0 GPA and 6 upper-division units in residence.

Classical Studies, Minor

Minor in Classical Studies 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 - Ancient Rome **Units: 3**
- OR**
- ? HUM 110 - Humanities in Republican and Imperial Rome **Units: 3**
- ? LATIN 1A - Elementary Latin **Units: 3**
- ? LATIN 1B - Elementary Latin **Units: 3**

- ? LATIN 131T - Latin Literature **Units: 3**
- ? Approved electives **Units: 9**

Total: 24 Units

Greek

- ? HIST 111 - Ancient Greece and Egypt **Units: 3**
- OR**
- ? HUM 108 - Humanities in Classical Athens **Units: 3**
- ? GRK 1A - Elementary Greek **Units: 3**
- ? GRK 1B - Elementary Greek **Units: 3**
- ? GRK 131T - Greek Literature **Units: 3**
- ? Approved electives **Units: 9**

Total: 24 Units

Classics

- ? HIST 111 - Ancient Greece and Egypt **Units: 3**
- OR**
- ? HUM 108 - Humanities in Classical Athens **Units: 3**
- ? HIST 112 - Ancient Rome **Units: 3**
- OR**
- ? HUM 110 - Humanities in Republican and Imperial Rome **Units: 3**
- ? LATIN 1A - Elementary Latin **Units: 3**
- ? LATIN 1B - Elementary Latin **Units: 3**
- ? GRK 1A - Elementary Greek **Units: 3**
- ? GRK 1B - Elementary Greek **Units: 3**
- ? LATIN 131T - Latin Literature **Units: 3**
- OR**
- ? GRK 131T - Greek Literature **Units: 3**
- ? Approved electives **Units: 3**

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 Medieval Worlds **Units: 3**
- ? ARTH 109T - Topics in Art History **Units: 1-3**

Drama

- ? DRAMA 185 - History of the Theatre and Drama I **Units: 3**

Humanities

- ? HUM 108 - Humanities in Classical Athens **Units: 3**
- ? HUM 110 - Humanities in Republican and Imperial Rome **Units: 3**

English

- ? ENGL 112 - World Literature: Ancient **Units: 4**

Foreign Language

Greek

- ? GRK 1A - Elementary Greek **Units: 3**
- ? GRK 1B - Elementary Greek **Units: 3**
- ? GRK 131T - Greek Literature **Units: 3** (max total 12 units if no topic repeated)
- ? GRK 190 - Independent Study **Units: 1-3**

Latin

- ? LATIN 1A - Elementary Latin **Units: 3**
- ? LATIN 1B - Elementary Latin **Units: 3**
- ? LATIN 131T - Latin Literature **Units: 3** (repeatable with different topic)
- ? LATIN 132 - Classical Mythology **Units: 3**
- ? LATIN 190 - Independent Study **Units: 1-3**

History

- ? HIST 1 - Western Civilization I **Units: 3**
- ? HIST 103 - History of Early Christianity **Units: 3**
- ? HIST 110 - Ancient Near East **Units: 3**
- ? HIST 111 - Ancient Greece and Egypt **Units: 3**
- ? HIST 112 - Ancient Rome **Units: 3**
- ? HIST 116 - Greek and Roman Religion **Units: 3**
- ? HIST 119T - Studies in Ancient History **Units: 1-3** (max total 6 units if no topic repeated)
- ? HIST 190 - Independent Study **Units: 1-3**

Philosophy

- ? PHIL 101 - Ancient Philosophy **Units: 3**

Kinesiology

- ? KINES 111 - The Olympic Games **Units: 3**

Political Science

- ? PLSI 110 - Seminar in History of Political Thought to Machiavelli **Units: 3**

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 - Foundations of Cognitive Science **Units: 4**

In Addition

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 - Foundations of Cognitive Science **Units: 4**

Five of the following:

- ? CSCI 119 - Introduction to Formal Languages and Automata **Units: 3 ***
- ? CSCI 164 - Artificial Intelligence Programming **Units: 3 ***
- ? CSCI 166 - Principles of Artificial Intelligence **Units: 3 ***
- ? PHIL 145 - Symbolic Logic **Units: 3**
- ? PHIL 146 - Philosophy of Language **Units: 3**
- ? PHIL 151 - Cognitive Science: Mind **Units: 3**
- ? PSYCH 121 - Learning and Memory **Units: 4**
- ? PSYCH 124 - Sensation and Perception **Units: 4 ****
- ? PSYCH 126 - Cognitive Neuroscience **Units: 4 ****
- ? PSYCH 128 - Cognitive Psychology **Units: 4**
- ? LING 142 - Phonology **Units: 3 *****
- ? LING 143 - Syntax **Units: 3 *****
- ? LING 165 - Language Acquisition **Units: 3 *****
- ? CGSCI 101 - Cognitive Science Seminar **Units: 3 ******

Total: 19-23 Units

* These courses have the following prerequisites: CSCI 40, CSCI 41, CSCI 60. CSCI 119 is also a prerequisite for CSCI 164 and CSCI 166.

** These courses have the following prerequisites: PSYCH 10, PSYCH 42, PSYCH 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 - Argumentation **Units: 3**
- ? COMM 7 - Persuasion **Units: 3**
- ? COMM 8 - Group Discussion **Units: 3**
- ? COMM 100 - Theories of Human Communication **Units: 3**
- ? COMM 140 - Rhetorical Theory **Units: 3**

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 (19 units)

- ? CSDS 80 - Introduction to Human Communication and Disorders **Units: 3**
- ? CSDS 91 - American Sign Language I **Units: 3**
- ? CSDS 95 - Introduction to Speech and Language Development **Units: 3**
- ? CSDS 101 - Phonetics of American English **Units: 3**

? CSDS 102 - Anatomy and Physiology of the Speech Hearing Mechanisms **Units: 3**

? CSDS 109 - Disorders of Language **Units: 3**

Deaf Studies (19 units)

? CSDS 80 - Introduction to Human Communication and Disorders **Units: 3**

? CSDS 91 - American Sign Language I **Units: 3**

? CSDS 92 - American Sign Language II **Units: 3**

? CSDS 93 - American Sign Language III **Units: 4**

? CSDS 139 - Deaf Culture **Units: 3**

? CSDS 141 - Education of Deaf Children and Their Parents **Units: 3**

Computational Linguistics, Minor

Computational Linguistics Minor Requirements

Required courses (9 units):

? LING 100 - General Linguistics **Units: 3**

? LING 149 - Corpus Linguistics **Units: 3**

? LING 152

Credits / Units: 3

6 Units from:

? LING 139 - General Phonetics **Units: 3**

AND

? LING 142 - Phonology **Units: 3**

OR

? LING 143 - Syntax **Units: 3**

AND

? LING 144 - Discourse Analysis **Units: 3**

Total: 15 Units

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.

Note: The minors also require a 2.0 GPA and 6 upper-division units in residence.

Computer Engineering, Minor

Computer Engineering Minor Requirements

The minor requires 20 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 - Introduction to Computational Programming **Units: 3**

OR

? CSCI 40 - Introduction to Programming and Problem Solving **Units: 4**

? ECE 72 - Introduction to Electrical and Computer Engineering Tools **Units: 2**

? ECE 85 - Digital Logic Design **Units: 3**

? ECE 90 - Principles of Electrical Circuits **Units: 3**

OR

? ECE 91 - Introduction to Electrical Engineering **Units: 3**

? ECE 118 - Microprocessor Architecture and Programming **Units: 3**

? ECE 106 - Switching Theory and Logical Design **Units: 3**

? ECE 174 - Advanced Computer Architecture **Units: 3**

OR

? ECE 176 - Advanced Digital Logic Design **Units: 3**

If Short in Total or Exclusive Units, Select From the Following With the Chair's Approval:

? ECE 85L - Digital Logic Design Laboratory **Units: 1**

? ECE 90L - Principles of Electrical Circuits Laboratory **Units: 1**

? ECE 118L - Microcontroller Laboratory **Units: 1**

? ECE 128 - Electronics I **Units: 3**

? ECE 128L - Electronics I Laboratory **Units: 3**

? ECE 141 - Algorithmic Computations **Units: 3**

? ECE 144 - Embedded Operating Systems **Units: 3**

? ECE 146 - Computer Networks **Units: 3**

? ECE 174 - Advanced Computer Architecture **Units: 3**

? ECE 176 - Advanced Digital Logic Design **Units: 3**

? ECE 178 - Embedded Systems **Units: 4**

? CSCI 41 - Introduction to Data Structures **Units: 4**

Minor Advising Note

? All course prerequisites are enforced.

? Courses in minor must be taken for a letter grade.

? 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, CSCI 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, CSCI 41)

* CSCI 154 and CSCI 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.

Artificial Intelligence:

- ? CSCI 60 - Foundations of Computer Science **Units: 3**
- ? CSCI 80 - Introduction to Computer Systems **Units: 3**
- ? CSCI 117 - Structures of Programming Languages **Units: 4**
- ? CSCI 164 - Artificial Intelligence Programming **Units: 3**
- ? CSCI 166 - Principles of Artificial Intelligence **Units: 3**

Computer Architecture:

- ? CSCI 80 - Introduction to Computer Systems **Units: 3**
- ? CSCI 113 - Introduction to Computer Organization **Units: 4**
- ? CSCI 176 - Parallel Processing **Units: 3**
- ? CSCI 177 - Distributed Computer Systems **Units: 3**

Computer Graphics:

- ? CSCI 80 - Introduction to Computer Systems **Units: 3**
- ? CSCI 172 - Computer Graphics **Units: 3**
- ? CSCI 173 - Advanced Computer Graphics **Units: 3**

Computer Languages:

- ? CSCI 60 - Foundations of Computer Science **Units: 3**
- ? CSCI 80 - Introduction to Computer Systems **Units: 3**
- ? CSCI 115 - Algorithms and Data Structures **Units: 4**
- ? CSCI 117 - Structures of Programming Languages **Units: 4**
- ? CSCI 134 - Compiler Design **Units: 3**

Database Emphasis:

- ? CSCI 60 - Foundations of Computer Science **Units: 3**
- ? CSCI 114 - Introduction to Operating Systems **Units: 3**
- ? CSCI 115 - Algorithms and Data Structures **Units: 4**
- ? CSCI 124 - Introduction to File Processing **Units: 3**

- ? CSCI 126 - Database Systems **Units: 3**

Scientific Computation:

- ? CSCI 60 - Foundations of Computer Science **Units: 3**
- ? CSCI 80 - Introduction to Computer Systems **Units: 3**
- ? CSCI 154 - Simulation **Units: 3 ***
- ? CSCI 172 - Computer Graphics **Units: 3 ***

Secondary Teaching:

- ? CSCI 60 - Foundations of Computer Science **Units: 3**
- ? CSCI 80 - Introduction to Computer Systems **Units: 3**
- ? CSCI 113 - Introduction to Computer Organization **Units: 4**
- ? CSCI 115 - Algorithms and Data Structures **Units: 4**
- ? CSCI 117 - Structures of Programming Languages **Units: 4**

Software Engineering:

- ? CSCI 60 - Foundations of Computer Science **Units: 3**
- ? CSCI 80 - Introduction to Computer Systems **Units: 3**
- ? CSCI 115 - Algorithms and Data Structures **Units: 4**
- ? CSCI 150 - Introduction to Software Engineering **Units: 3**
- ? CSCI 152E - Software Engineering **Units: 3**

System Software:

- ? CSCI 80 - Introduction to Computer Systems **Units: 3**
- ? CSCI 113 - Introduction to Computer Organization **Units: 4**
- ? CSCI 114 - Introduction to Operating Systems **Units: 3**
- ? CSCI 146 - Systems Architecture **Units: 3**
- OR**
- ? CSCI 148 - Systems Programming **Units: 3**

Theory of Computation:

- ? CSCI 60 - Foundations of Computer Science **Units: 3**
- ? CSCI 119 - Introduction to Formal Languages and Automata **Units: 3**
- ? CSCI 174 - Design and Analysis of Algorithms **Units: 3**
- ? CSCI 186 - Formal Languages and Automata **Units: 3**
- ? CSCI 188 - Introduction to Computability **Units: 3**

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 (15 units)

- ? CM 17S - Construction Materials & Basic Building Systems **Units: 3**
- ? CM 18 - Construction Graphics **Units: 3**
- ? CM 20 - Construction Documents **Units: 3**
- ? CM 110 - Estimating and Bidding **Units: 3**
- ? CM 116 - Construction Scheduling **Units: 3**

Additional Elective Courses (6 units)

The student will select additional construction courses in consultation with a faculty advisor. Emphasis may be placed upon a variety of specialization areas.

Potential elective groups include:

Fundamentals of Construction Management:

- ? CM 1 - Construction Management and Architectural Studies Orientation 1 **Units: 1**
- ? CM 5 - Analysis of Construction Materials **Units: 2**
- ? CM 15 - Construction Management Software and Safety **Units: 2**

Building Construction:

- ? CM 150 - Building Construction **Units: 3** one other upper-division CM elective

Heavy Civil Construction:

- ? CM 151 - Heavy Civil Construction **Units: 3** one other upper-division CM elective

Residential Construction:

- ? CM 144 - Construction Site Planning and Development **Units: 3** one other upper-division CM elective

Total (21 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 8 of which must be upper-division units.

Lower Division Creative Writing (8 units)

(Select a minimum of two courses; transferrable credit acceptable. Courses may not be repeated.)

- ? ENGL 21 - Genre **Units: 4**
- ? ENGL 41 - Poetry Writing **Units: 4**
- ? ENGL 43 - Fiction Writing **Units: 4**
- ? ENGL 44 - Creative Nonfiction Writing **Units: 4**

Upper Division Creative Writing (8-12 units)

(Select a minimum of two courses, one from Group A and one from Group B. Courses may not be repeated.)

Group A:

- ? ENGL 161 - Advanced Writing of Poetry **Units: 4**
- ? ENGL 163 - Advanced Writing of Fiction **Units: 4**
- ? ENGL 164 - Advanced Writing of Creative Nonfiction **Units: 4**

Group B:

- ? ENGL 165 - Craft and Technique in Creative Writing **Units: 4**
- ? ENGL 166 - Literary Publishing and Editing **Units: 4**

Literature (4 units)

(All non-English Majors must select a minimum of one course. Requirement may be waived for English Majors: see Creative Writing advisor.)

Select one:

- ? ENGL 101 - Masterpieces of World Literature **Units: 4**
- ? ENGL 102 - Masterpieces of English Literature **Units: 4**
- ? ENGL 103 - Masterpieces of American Literature **Units: 4**

Total: 20 Units

Note: The Creative Writing Minor also requires a 2.0 GPA and 8 upper-division units in residence. Courses taken as CR/NC may not be applied to the Minor. Prerequisites for courses may be waived only with permission of advisor and specific course instructor on the basis of an adequate writing sample.

Criminology, Minor

Criminology Minor Requirements

- ? CRIM 2 - Administration of Justice **Units:** 3
- ? CRIM 20 - Criminal Law **Units:** 3
- ? CRIM 100 - Criminology **Units:** 3
- ? Upper-division CRIM electives **Units:** 12

Total: 21 Units

CRIM 100, CRIM 120, and FBS 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.

Cybersecurity, Minor

Cybersecurity Minor Requirements

The minor requires 22 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 (13 units):

(see note 4)

- ? ECE 85 - Digital Logic Design **Units:** 3
- ? CSCI 41 - Introduction to Data Structures **Units:** 4
- ? ECE 118 - Microprocessor Architecture and Programming **Units:** 3
- ? ECE 146 - Computer Networks **Units:** 3

In Addition, Students Pursuing the Minor Must Complete the Following Nine (9) Units:

Another cybersecurity course taken at Fresno State University or at another accredited institution with prior approval of the department chair can count towards three (3) units from these nine (9) units.

- ? ECE 150 - Cloud and Cyber Security **Units:** 3
- ? ECE 156 - Fundamentals of Cryptography and Computer Network Security **Units:** 3
- ? IS 141 - Cyber-Security **Units:** 3

Advising Notes

- ? All course prerequisites are enforced.
- ? Courses in minor must be taken for a letter grade.
- ? The Cybersecurity Minor requires 2.5 GPA and 9 upper-division units in residence.
- ? Students are advised to seek their advisor's input upon course selections
- ? Computer Science students may replace CSCI 113 and CSCI 156 for ECE 118 and ECE 146, respectively.
- ? Information Systems and Decision Sciences students may replace IS 51, IS 166, and IS 182 for CSCI 41, ECE 118, and ECE 146, respectively.

Dance, Minor

Minor in Dance Requirements

- ? DANCE 117A - Modern Dance Technique **Units:** 1
- ? DANCE 117B - Modern Dance Technique **Units:** 1
- ? DANCE 117C - Modern Dance Technique **Units:** 2
- ? DANCE 158A - Ballet Technique **Units:** 1
- ? DANCE 158B - Ballet Technique **Units:** 1
- ? DANCE 158C - Ballet Technique **Units:** 2
- ? DANCE 70 - Balance BodyMind **Units:** 3
- ? DANCE 164 - Dance History **Units:** 3
- ? DANCE 166 - Dance Choreography **Units:** 2
- ? DANCE 175 - World Dance **Units:** 3
- ? DANCE 115 - University Dance Theatre **Units:** 1

Total: 20 Units

Note: The minor also requires a 2.0 GPA and 6 upper-division units in residence.

Data Analytics, Minor

Data Analytics Minor Requirements

Required (12 units):

- ? DS 73 - Statistical Analysis I **Units:** 3

- ? DS 123 - Statistical Analysis II **Units: 3**
- ? DS 133 - Business Intelligence with Advanced Spreadsheet **Units: 3**
- ? DS 135 - Data Analytics **Units: 3**

Elective (select two) (6 - 7 units):

- ? DS 189T - Topics in Decision Sciences **Units: 1-3**
- ? IS 189T - Topics in Information Systems **Units: 1-3**
- ? CSCI 164 - Artificial Intelligence Programming **Units: 3**
- ? ECON 123 - Introduction to Econometrics **Units: 3**
- ? FIN 123 - Business Forecasting **Units: 3**
- ? IS 158 - Database Design and SQL **Units: 3**
- ? MATH 109 - Applied Probability **Units: 3**
- ? IS 140 - Geographic Information Systems (GIS) for Business **Units: 3**
- ? IS 160 - Artificial Intelligence in Business **Units: 3**
- ? ACCT 146S - Accounting Information Systems and Controls **SL Units: 4**

Total: 18 Units

Advising Notes

- ? Departments will provide permission into courses after evaluating appropriate similar prerequisites have been completed. In the case of DS 73, any GE area B4 will sufficiently satisfy the prerequisite (DS 72 is preferred). DS 133 and/or DS 135 can be taken concurrently with DS 123.
- ? Students must earn a grade of C or better in each course. No course may be taken as CR/NC.
- ? Student must have a 2.0 GPA and 6 upper-division units in residence.

Economics, Minor

Economics Minor Requirements

- ? ECON 40 - Principles of Microeconomics **Units: 3**
- ? ECON 50 - Principles of Macroeconomics **Units: 3**
- ? Upper-Division Economics Courses **Units: 12**

Total: 18 Units

Note: The minors also require a 2.0 GPA and 6 upper-division units in residence.

Advising Notes for Minors

- ? ECON 25, ECON 40, and ECON 50 may also meet General Education requirements.
- ? A grade of C or better must be earned for each course used to satisfy the requirements for the minor.

Electrical Engineering, Minor

Electrical Engineering, Minor Requirements

The minor requires 20 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 - Introduction to Computational Programming **Units: 3**
- OR**
- ? CSCI 40 - Introduction to Programming and Problem Solving **Units: 4**
- ? ECE 72 - Introduction to Electrical and Computer Engineering Tools **Units: 2**
- ? ECE 85 - Digital Logic Design **Units: 3**
- ? ECE 90 - Principles of Electrical Circuits **Units: 3**
- OR**
- ? ECE 91 - Introduction to Electrical Engineering **Units: 3**
- ? ECE 102 - Advanced Circuit Analysis **Units: 3**
- ? ECE 124 - Signal and Systems **Units: 3**
- ? ECE 128 - Electronics I **Units: 3**
- OR**
- ? ECE 121 - Electromechanical Systems and Energy Conversion **Units: 3**

If Short in Exclusive Units, Select from the Following with the Chair's Approval:

- ? ECE 85L - Digital Logic Design Laboratory **Units: 1**
- ? ECE 90L - Principles of Electrical Circuits Laboratory **Units: 1**
- ? ECE 91L - Introduction to Electrical Engineering Laboratory **Units: 1**
- ? ECE 118 - Microprocessor Architecture and Programming **Units: 3**
- ? ECE 118L - Microcontroller Laboratory **Units: 1**
- ? ECE 121 - Electromechanical Systems and Energy Conversion **Units: 3**
- ? ECE 126 - Electromagnetic Theory and Applications I **Units: 3**
- ? ECE 128 - Electronics I **Units: 3**
- ? ECE 128L - Electronics I Laboratory **Units: 1**
- ? ECE 134 - Analog and Digital Communication Engineering **Units: 3**
- ? ECE 138 - Electronics II **Units: 3**
- ? ECE 138L - Electronics II Laboratory **Units: 1**
- ? ECE 173 - Robotics Fundamentals **Units: 3**

Minor Advising Note

- ? All course prerequisites are enforced.
- ? Courses in minor must be taken for a letter grade.
- ? The Electrical Engineering Minor requires 2.0 GPA and 9 upper-division units in residence.

English Literature, Minor

English Literature Minor Requirements

Students in many fields realize the crucial need to read, write, and engage diverse communities critically, creatively, and effectively. The English Literature Minor offers experience in those abilities through the study of profound, socially engaged, finely crafted literature. The Minor requires 15-16 units of classes in Literature or literary studies. At least 8 units of this coursework must be upper division and taken in residence.

English Literature Minor Requirements

Group A: One Lower-Division English Course (4 units)

Choose from:

- ? ENGL 20 - Introduction to Literature **Units: 4**
- ? ENGL 21 - Genre **Units: 4**
- ? ENGL 30 - Readings in World Literature **Units: 4**
- ? ENGL 31 - Readings in British Literature **Units: 4**
- ? ENGL 32 - Readings in American Literature **Units: 4**

Group B: Two Upper-Division English Course (7-8 units).

Choose from:

- ? ENGL 101 - Masterpieces of World Literature **Units: 4**
- ? ENGL 102 - Masterpieces of English Literature **Units: 4**
- ? ENGL 103 - Masterpieces of American Literature **Units: 4**
- ? ENGL 105 - Textual Analysis **Units: 4**
- ? ENGL 106W - Writing in English Studies **Units: 4**
- ? ENGL 112 - World Literature: Ancient **Units: 4**
- ? ENGL 113 - World Literature: Medieval and Renaissance **Units: 4**
- ? ENGL 114 - World Literature: Modern **Units: 4**
- ? ENGL 118 - World Literature: Modern and Contemporary **Units: 4**
- ? ENGL 141 - African American Masterpieces of American Literature **Units: 4**
- ? ENGL 142 - American Indian Masterpieces of American Literature **Units: 4**
- ? ENGL 143 - Asian American Masterpieces of American Literature **Units: 4**
- ? ENGL 144 - Masterpieces of Chicana Literature **Units: 4**

- ? ENGL 146 - Medieval Literature **Units: 4**
- ? ENGL 147 - English Renaissance Literature **Units: 4**
- ? ENGL 150 - Restoration and 18th Century Literature **Units: 4**
- ? ENGL 151 - British Romantic Literature **Units: 4**
- ? ENGL 152 - Victorian Literature **Units: 4**
- ? ENGL 153 - American Literature to 1865 **Units: 4**
- ? ENGL 154 - American Literature 1865 to World War I **Units: 4**
- ? ENGL 155 - Modern and Contemporary American Literature **Units: 4**
- ? ENGL 156 - Modern and Contemporary British Literature **Units: 4**
- ? ENGL 167 - Mythology and Folklore **Units: 4**
- ? ENGL 168T - Women and Literature **Units: 4**
- ? ENGL 169T - Forms of Literature **Units: 1-4**
- ? ENGL 171 - Biography and Autobiography **Units: 4**
- ? ENGL 174 - Popular Fiction **Units: 3**
- ? ENGL 178 - Lesbian & Gay Literature **Units: 4**
- ? ENGL 179 - Multi-Ethnic Literature and Writing **Units: 4**
- ? ENGL 188T - Single Author **Units: 4**
- ? ENGL 189 - Shakespeare **Units: 4**

Choose One Additional Course from Either Group A or Group B Above (4 units)

Total: 15-16 Units

Notes: The English Literature Minor also requires a 2.0 GPA and 8 upper-division units in residence. Courses taken as CR/NC may not apply to the Minor. Prerequisites for courses may be waived with permission of the English Major advisor and specific course instructor.

Enology, Minor

A Minor in Enology for a bachelor's degree requires 8 units of enology coursework including 6 units of specific course requirements, 12 units minimum of upper-division elective coursework, and 13-19 units of preparative coursework.

Specific Course Requirements

- ? ENOL 45 - Wine Evaluation Techniques **Units: 3**
- ? ENOL 110 - Grape and Wine Chemistry **Units: 3**

Enology Electives

A minimum of 12 units of upper-division coursework in enology selected in consultation with a department advisor from the following list:

- ? ENOL 105 - Advanced Sensory Evaluation of Wines **Units: 3**
- ? ENOL 115 - Analytical Methods for Wine I **Units: 4**
- ? ENOL 125 - Wine Microbiology **Units: 4**

- ? ENOL 140 - Regulations: Wine and Brandy **Units: 2**
- ? ENOL 151 - Winery Equipment **Units: 2**
- ? ENOL 163 - Fermentation **Units: 3**
- ? ENOL 164 - Wine Analysis and Production **Units: 4**
- ? ENOL 166 - Cellar Operations **Units: 3**
- ? ENOL 170E - Wine Business **Units: 3**
- ? ENOL 173 - Wine Marketing **Units: 3**
- ? ENOL 175 - Winery Management **Units: 3**

These Enology Courses Will Require That Students Complete the Following Prerequisite Coursework:

- ? ENOL 15 - Introduction to Enology **Units: 3**
- ? AGBS 1 - Introductory Agricultural Economics **Units: 3**
- ? CHEM 3A - Introductory General Chemistry **Units: 4**
- OR**
- ? CHEM 1A - General Chemistry 1A **Units: 3**
- ? CHEM 1AL - General Chemistry Laboratory 1A **Units: 2**
- ? CHEM 1B - General Chemistry 1B **Units: 3**
- AND**
- ? CHEM 1BL - General Chemistry Laboratory 1B **Units: 2**
- ? CHEM 8 - Elementary Organic Chemistry **Units: 3**
- ? ENOL 168 - Introduction to Vine, Grape and Yeast Biochemistry **Units: 3**
- OR**
- ? CHEM 150 - General Biochemistry **Units: 3**

Entrepreneurship, Minor

Entrepreneurship Minors Requirements (12 units)

- ? ENTR 81E - Introduction to Entrepreneurship **Units: 3**
- ? ENTR 151E - Opportunity Assessment **Units: 3**
- ? ENTR 153E - Business Plan Model **Units: 3**
- ? MGT 127 - Contemporary Leadership **Units: 3**

Elective Courses: (6 units)

- ? BA 152E - Law for Entrepreneurs **Units: 3**
- ? ENTR 155E - Managing the New Venture **Units: 3**
- ? ENTR 157E - New Venture Laboratory **Units: 3**
- ? ENTR 161E - Urban Entrepreneurship **Units: 3**
- ? ENTR 163E - Social Entrepreneurship **Units: 3**
- ? ENTR 165E - Corporate Entrepreneurship **Units: 3**
- ? ENTR 167E - Franchising **Units: 3**
- ? ENTR 169E - Family Business Management **Units: 3**
- ? FIN 131E - Entrepreneurial Finance **Units: 3** or courses approved by the option coordinator

Total: 18 Units*

* Students must earn a grade of at least C in each course.

Advising Notes

- ? All minors also require a 2.0 GPA and 6 upper-division units in residence.
- ? 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 - Textile Science **Units: 3**
- ? FM 21 - Fashion Merchandising Fundamentals **Units: 3**
- ? FM 120 - Social and Psychological Aspects of Clothing **Units: 3**
- ? FM 128 - Visual Merchandising **Units: 3**

Electives (9 units)

Determined in consultation with an advisor

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.

Film and Media Arts, Minor

Film and Media Arts Minor Requirements

The Film and Media Arts minor offers students a comprehensive training in film and media production and critical studies. The minor consists of a minimum 21 units. Students take a series of required classes to acquire basic skills (technical, written, aesthetic, and critical, 15 units) while also having the flexibility for more in-depth study in an area of interest by completing two advanced production/studies electives (6 units).

Required:

- ? MCJ 4 - Writing for Visual Media **Units: 3**
- ? MCJ 15 - Filmmaking I **Units: 3**

- ? MCJ 60 - Film Theory **Units: 3**
- ? MCJ 115 - Filmmaking II **Units: 3**
- ? MCJ 116 - Documentary Film and Video Production **Units: 3**
- OR**
- ? MCJ 117 - Narrative Filmmaking **Units: 3**

Film and Media Arts Electives (choose 2):

- ? MCJ 17 - Photojournalism **Units: 3**
- ? MCJ 111 - Post-Production **Units: 3**
- ? MCJ 112 - Audio Production **Units: 3**
- ? MCJ 113 - Advanced Television Studio Production **Units: 3**
- ? MCJ 114W - Screenwriting **Units: 3**
- ? MCJ 116 - Documentary Film and Video Production **Units: 3**
- ? MCJ 117 - Narrative Filmmaking **Units: 3**
- ? MCJ 118S - Corporate and Nonprofit Media Projects **Units: 3**
- ? MCJ 119E - Creative Media Production and Entrepreneurship **Units: 3**
- ? MCJ 120 - Multimedia Production Studio Practicum **Units: 1-3**
- ? MCJ 136 - Media Projects **Units: 1-3**
- ? MCJ 163 - Media and Pop Culture **Units: 3**

Total: 21 Units

Food Science, Minor

Food Sciences Minor Requirements

The Minor in Food 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 Food Science Minor also requires a 2.0 GPA and 6 upper-division units in residence

Forensic Behavioral Sciences, Minor

Forensic Behavioral Sciences Minor Requirements

Required Courses (9 units)

- ? CRIM 2 - Administration of Justice **Units: 3**
- ? CRIM 20 - Criminal Law **Units: 3**
- ? FBS 153 - Psychology of Criminality **Units: 3**

Electives (12 units)

Select from:

- ? FBS 114 - Ethics in Forensic Behavioral Sciences **Units: 3**
- ? FBS 154 - Fundamentals of Forensic Behavioral Sciences **Units: 3**
- ? FBS 155 - Biology of Criminality **Units: 3**
- ? FBS 156 - Forensic Behavioral Sciences and the Law **Units: 3**
- ? FBS 157 - Interviewing and Interrogation **Units: 3**
- ? FBS 159T - Topics in Forensic Behavioral Sciences **Units: 3**

Total: 21 Units

Note: The minor also requires a 2.5 GPA and 6 upper-division units in residence.

French and Francophone Studies, Minor

French and Francophone Studies Minor Requirements

Lower-Division Courses (6-9 units):

- ? FREN 1B - Elementary French **Units: 3**
- ? FREN 2A - French for Communication **Units: 3**
- ? FREN 2B - French for Communication **Units: 3**
- ? FREN 5 - Conversation **Units: 3**

Upper-Division Courses (9-12 units):

- ? FREN 109 - French Literature, Culture, and Society from the Middle Ages to Today **Units: 3**
- ? FREN 124 - The French Esthetic **Units: 3**
- ? FREN 125 - French and Francophone Film **Units: 3**
- ? FREN 149 - Voices of Africa **Units: 3**

Total: 18 Units

Note: The minors also require a 2.0 GPA and 6 upper-division units in residence.

French, Minor

French Minor Requirements

Minors 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.

- ? Lower-division courses **Units:** 6-9
- ? Upper-division courses **Units:** 12-15

Total: 21 Units

Note: The minors also require a 2.0 GPA and 6 upper-division units in residence.

General Business, Minor

Business Minor Requirements

- ? ACCT 4A - Financial Accounting Principles and Systems **Units:** 3
- ? DS 73 - Statistical Analysis I **Units:** 3
- ? ECON 40 - Principles of Microeconomics **Units:** 3
- ? FIN 120 - Principles of Finance **Units:** 4
- ? IS 130 - Information Systems **Units:** 3
- ? MGT 104 - Administrative Principles of Management **Units:** 3
- ? MKTG 100S - Marketing Concepts **Units:** 4

Total: 23 Units*

* Students must earn a grade of at least C in each course.

Advising Notes

- ? All minors also require a 2.0 GPA and 6 upper-division units in residence.
- ? 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."

Geography, Minor

Geography Minor Requirements

- ? Select one upper-division course (3 units)
- ? GEOG 4 - World Geography **Units:** 3
- ? GEOG 5 - Introduction to Weather and Climate **Units:** 3
- OR**
- ? GEOG 7 - Physical Geography: The Earth's Surface **Units:** 3
- ? GEOG 167 - People and Places-A Global Perspective **Units:** 3
- ? Select from geography courses **Units:** 9

Total: 21 Units

Advising Notes

- ? No more than 3 units earned in GEOG 195 may be applied to the minor.
- ? The Geography Minor also requires a 2.0 GPA and 6 upper-division units in residence.
- 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

Minors 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.

- ? GERM 1A - Elementary German **Units:** 4
- ? GERM 1B - Elementary German **Units:** 4
- ? GERM 2A - Intermediate German **Units:** 3
- ? GERM 2B - Intermediate German **Units:** 3
- ? GERM 101 - Composition **Units:** 3
- ? GERM 150 - Advanced Conversation **Units:** 3
- ? German electives, upper division **Units:** 0-12

Total: 18 Units

Note: The minors also require 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 - Journey of Adulthood: Planning a Meaningful Life **Units: 3**

OR

? GERON 100 - Images of Aging in Contemporary Society **Units: 3**

? GERON 161 - Multiculture/Aging **Units: 3**

Electives (9 units)*

? GERON 103 - Psychology of Aging **Units: 3**

? GERON 111 - Heritage and Aging **Units: 3**

? GERON 115 - Health Issues of Aging **Units: 3**

? GERON 125 - Social Services for the Aging **Units: 3**

? GERON 132 - Alzheimer's Disease **Units: 1**

? GERON 134 - Mental Health and Caregiving **Units: 3**

? GERON 137 - Community Service in Gerontology **Units: 1-3**

? GERON 139 - Death and Dying **Units: 3**

? GERON 140 - Aging in America: Politics & Change **Units: 3**

? GERON 148 - Biophysical Aspects of Aging **Units: 3**

? GERON 150 - Communication and Aging **Units: 3**

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 - Financial Accounting Principles and Systems **Units: 3**

? IS 52 - Computer Concepts **Units: 2**

? IS 52L - Computer Concepts Lab **Units: 1**

? ECON 40 - Principles of Microeconomics **Units: 3**

? ECON 50 - Principles of Macroeconomics **Units: 3**

? DS 71 - Quantitative Analysis **Units: 3**

? DS 73 - Statistical Analysis I **Units: 3**

? DS 123 - Statistical Analysis II **Units: 3**

? FIN 120 - Principles of Finance **Units: 4**

? BA 174 - Introduction to International Business **Units: 3**

? MGT 104 - Administrative Principles of Management **Units: 3**

? MGT 124 - Production/Operations Management **Units: 4**

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

? All minors also require a 2.0 GPA and 6 upper-division units in residence.

? 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."

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 - Basic Hmong **Units: 4**

? HMONG 1B - Basic Hmong **Units: 4**

? HMONG 4 - Beginning Literacy for Hmong Speakers **Units: 3**

? HMONG 100 - Intermediate Reading and Composition **Units: 3**

? HMONG 101 - Advanced Reading and Composition **Units: 3**

? LING 121 - Hmong Language, Culture, and Identity **Units: 3**

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.

- ? HUM 10 - Humanities from Antiquity to the Renaissance **Units: 3**
- ? HUM 11 - Humanities from the Baroque to the Modern **Units: 3**
- ? HUM 15 - Classical Myth and World Humanities **Units: 3**
- OR**
- ? HUM 104 - Humanities in the Middle Ages and Renaissance **Units: 3**
- OR**
- ? HUM 118 - Folklore in Contemporary Life **Units: 3**
- ? HUM 108 - Humanities in Classical Athens **Units: 3**
- ? HUM 110 - Humanities in Republican and Imperial Rome **Units: 3**
- ? Approved Electives (select from remaining humanities courses or from other pertinent courses approved by the faculty adviser) **Units: 6**

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 units must be upper-division. The program provides students with an introduction to industrial technology. Students will acquire specialized technical and management knowledge and skills. Students, in consultation with a department advisor, may choose from among the following courses:

- ? IT 12 - Basic Vehicle Systems **Units: 3**
- ? IT 30 - Exploring Industrial Technology Systems **Units: 1**

- ? IT 52 - Electricity and Electronics **Units: 3**
- ? IT 74 - Manufacturing Processes **Units: 3**
- ? IT 92 - Safety Management **Units: 3**
- ? IT 106 - Energy Conversion and Utilization **Units: 3**
- ? IT 115 - Design and Documentation Systems **Units: 3**
- ? IT 116 - Applied Visual Programming **Units: 3**
- ? IT 117 - Quality Assurance **Units: 3**
- ? IT 120 - Vehicle Engine Systems **Units: 3**
- ? IT 131 - Automated Systems I **Units: 3**
- ? IT 133 - Industrial Process Control Systems II **Units: 3**
- ? IT 137 - International Quality Standards **Units: 3**
- ? IT 156 - Automated Systems II **Units: 3**
- ? IT 184 - Advanced Manufacturing Technology **Units: 3**
- ? IT 186 - Applied Spatial Technology **Units: 3**
- ? IT 190 - Independent Study **Units: 1-3**

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 advisor in either department.

Political Science

- ? PLSI 120 - International Politics **Units: 3**

Electives* (6 units)

Select from:

- ? PLSI 121 - American Foreign Affairs **Units: 3**
- ? PLSI 122 - Politics of Foreign Aid **Units: 3**
- ? PLSI 125 - Russian Foreign Policy **Units: 3**
- ? PLSI 126 - International Law and Organization **Units: 3**
- ? PLSI 128T - Topics in International Relations **Units: 1-4**
- ? PLSI 140 - Approaches to Comparative Politics **Units: 3**
- ? PLSI 141 - Russian Politics **Units: 3**

- ? PLSI 142T - Area Studies in Western Europe **Units: 1-4**
- ? PLSI 143T - Area Studies in Eastern Europe **Units: 1-4**
- ? PLSI 144T - Area Studies in Africa and Middle East **Units: 1-4**
- ? PLSI 145T - Area Studies in Asia **Units: 1-4**
- ? PLSI 146T - Area Studies in Latin America **Units: 1-4**
- ? PLSI 147 - East Asian Politics **Units: 3**
- ? PLSI 148 - Latin American Politics **Units: 3**
- ? PLSI 149T - Seminar in Comparative Government **Units: 1-4**

Economics

Electives** (9 units)

Select from:

- ? ECON 114 - Economic Development of Poor Nations **Units: 3**
- ? ECON 178 - International Economics **Units: 3**
- ? ECON 179 - International Political Economy **Units: 3**
- ? ECON 181 - Political Economy of Latin America **Units: 3**
- ? ECON 183 - Political Economy of the Middle East **Units: 3**
- ? ECON 185 - Directed Readings **Units: 1-3**
- ? ECON 190 - Independent Study **Units: 1-3**

Total: 18 Units

* PLSI 1 or PLSI 2 may be listed as a prerequisite for some of these courses.

** ECON 40 and ECON 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, ECON 40, and ECON 50 may also meet General Education requirements.

Italian Studies, Minor

The Minor in Italian Studies is an interdisciplinary program designed for students interested in Italian culture and language. Open to students in all majors, this program emphasizes the contributions of Italian culture to global innovation in all human endeavors. Depending on the specific minor, the student is responsible for 18-20 units. Consult a departmental adviser for planning your program.

Italian Studies Minor Requirements

- ? Lower-division courses in Italian **Units: 6 - 8**
- ? Upper-division courses in Italian (ITAL 100 and other Italian upper-division course) **Units: 6**
- ? Approved electives* **Units: 6**

Total: 18-20 Units

Note: The Italian 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 Italian Studies Coordinator.

Agricultural Business

- ? AGBS 173 - Wine Marketing **Units: 3**

Anthropology

- ? ANTH 2 - Introduction to Cultural Anthropology **Units: 3**
- ? ANTH 30 - Critical Thinking in Anthropology **Units: 3**
- ? ANTH 101 - Introductory Fieldwork in Archaeology **Units: 3-6**

Art and Design

- ? ARTDS 7A - Art and Design Fundamentals I **Units: 1**
- ? ARTDS 7B - Art and Design Fundamentals II **Units: 2**

Art

- ? ART 13 - Design **Units: 3** [GE area E1]

Art History

- ? ARTH 10 - The Ancient Medieval Worlds **Units: 3**
- ? ARTH 11 - The Early Modern World **Units: 3** [GE area C1]
- ? ARTH 109T - Topics in Art History **Units: 1-3**
- ? ARTH 120 - Italian Renaissance **Units: 3**
- ? ARTH 124 - Southern Baroque **Units: 3**

Business Administration (BA)

- ? BA 174 - Introduction to International Business **Units: 3**
- ? BA 176 - The International Business Environment **Units: 3**

Enology (ENOL)

- ? ENOL 15 - Introduction to Enology **Units: 3**

Drama

- ? DRAMA 185 - History of the Theatre and Drama I **Units: 3**

Fashion Merchandising

? FM 21 - Fashion Merchandising Fundamentals **Units: 3**

Geography

? GEOG 174 - European Regions **Units: 3**

History

? HIST 1 - Western Civilization I **Units: 3**
? HIST 109T - Studies in Middle East and Africa **Units: 1-3**
? HIST 116 - Greek and Roman Religion **Units: 3**
? HIST 118 - Augustus & Rome **Units: 3**
? HIST 125 - Renaissance **Units: 3**
? HIST 133 - Europe in the 20th Century **Units: 3**
? HIST 135 - European Cultural History **Units: 3**
? HIST 139 - European Diplomatic History 1890-1945 **Units: 3**
? HIST 149T - Studies in Modern European History **Units: 1-3**
(repeatable up to 6 units)

Humanities

? HUM 10 - Humanities from Antiquity to the Renaissance **Units: 3**
? HUM 104 - Humanities in the Middle Ages and Renaissance **Units: 3** [GE area IC]
? HUM 110 - Humanities in Republican and Imperial Rome **Units: 3** [GE area IC]

Interior Design

? ID 70 - Design History, Theory & Criticism I **Units: 3**

Italian

? Any other Italian (ITAL) courses (3 units each)

Linguistics

? LING 10 - Introduction to Language **Units: 3** (G.E.)
? LING 11 - Linguistics for Teachers **Units: 3**

Management

? MGT 131 - International Management **Units: 3**

Marketing

? MKTG 100S - Marketing Concepts **Units: 4** [MI]

Mechanical Engineering

? ME 1 - Introduction to Mechanical Engineering **Units: 1**

Media, Communications and Journalism

? MCJ 9 - Film Appreciation **Units: 3**
? MCJ 60 - Film Theory **Units: 3**

Music

? MUSIC 9 - Introduction to Music **Units: 3**
? MUSIC 118OPR - Opera Production **Units: 1** (repeatable up to 99 units)
? MUSIC 118OT - Opera Theatre **Units: 1** (repeatable up to 99 units)

Philosophy

? PHIL 101 - Ancient Philosophy **Units: 3**

Political Science

? PLSI 110 - Seminar in History of Political Thought to Machiavelli **Units: 3**
? PLSI 142T - Area Studies in Western Europe **Units: 1-4**
(repeatable up to 8 units)

Japanese, Minor

Japanese Minor Requirements

? JAPN 1A - Elementary Japanese **Units: 4**
? JAPN 1B - Elementary Japanese **Units: 4**
? JAPN 2A - Intermediate Japanese **Units: 3**
? JAPN 2B - Intermediate Japanese **Units: 3**
? JAPN 100 - Advanced Japanese **Units: 3**
? JAPN 101 - Advanced Japanese **Units: 3**
? LING 120 - Japanese Language and Culture **Units: 3**

Total: 23 Units

Note: The minor also requires a 2.0 GPA and 6 upper-division units in residence.

Jewish Studies, Minor

Jewish Studies Minor Requirements

The Jewish Studies Program encourages Fresno State students from all backgrounds to study the many dimensions of Jewish heritage and its contemporary contexts. Course offerings explore the diverse experiences, contributions, and challenges of the Jewish people, from ancient to modern times in Israel, and across the global locations of

the Jewish diaspora, including the wider Middle East, Europe, North Africa, and the Americas. A focus on the vibrant traditions and practices of Jewish people - who are themselves a diverse, transnational, multi-cultural group - heightens sensitivity to minority perspectives, encourages interdisciplinary thinking, and sheds light on the impact of cross-cultural contact and exchanges. The Jewish Studies Program thus provides information, concepts, and approaches that can aid understanding about a range of comparative ethnic and religious minority identities. The program also raises awareness about the local Jewish community's presence amidst the wonderful diversity of California's San Joaquin Valley.

The Minor in Jewish Studies augments students' major coursework and prepares students for graduate education, especially in history, Jewish Studies, international relations, religious studies, and philosophy, as well as professional training and careers in teaching, law, public sector administration, service and advocacy, foreign service and diplomacy, museums, religious organizations, business, human resources, and creative fields.

Students earn a Minor in Jewish Studies from the College of Social Sciences by taking courses in Jewish history, religion, culture, politics and/or Hebrew language and completing all courses with a grade of C or better. The minor requires a total of 15 units from at least two disciplines. Coursework taken for Minor credit may be selected from any of the following lower- and upper-division classes for 15 units; there are no specific courses required.

Lower-Division

Select from:

- ? HEBR 1A - Basic Hebrew **Units: 4**
- ? HEBR 1B - Basic Hebrew **Units: 3**
- ? HIST 13 - Empires of the Middle East **Units: 3**
- ? JS 10 - Jewish Civilization **Units: 3**

Upper-Division

Select from:

- ? COMS 1011 - Community Service Internship **Units: 1-3** (or approved internship course)
- ? ENGL 112 - World Literature: Ancient **Units: 4**
- ? ENGL 116 - Literature of the Old Testament **Units: 4**
- ? ENGL 179 - Multi-Ethnic Literature and Writing **Units: 4**
- ? HIST 103 - History of Early Christianity **Units: 3**
- ? HIST 107 - Modern Middle East **Units: 3**
- ? HIST 114 - Gender, Sexuality and the Family in the Middle East **Units: 3**
- ? HIST 115 - Ancient Israel **Units: 3**
- ? HIST 140 - Holocaust **Units: 3**
- ? HIST 146 - Gendered Perspectives on U.S. Immigration **Units: 3**
- ? HIST 154 - Jewish American Popular Culture **Units: 3**
- ? HIST 173 - Jews in American Film **Units: 3**
- ? HIST 186 - American Immigration and Ethnic History **Units: 3**
- ? HIST 181 - Anti-Semitism from the Medieval to Modern World **Units: 3**

- ? HUM 118 - Folklore in Contemporary Life **Units: 3**
- ? HUM 120 - Genocide, Memory and Media **Units: 3**
- ? JS 100W - Writing and the Jewish Experience **Units: 3**
- ? JS 154 - Jewish American Popular Culture **Units: 3**
- ? JS 173 - Jews in American Film **Units: 3**
- ? PAX 100 - Peace and Conflict Studies **Units: 3**
- ? PHIL 131 - Comparative Religion **Units: 3**
- ? PHIL 134 - Literature of the Old Testament **Units: 4**
- ? PHIL 158 - Judaism **Units: 3**
- ? SOC 111 - Sociology of Race and Ethnicity **Units: 3**
- ? SOC 121 - Sociology of Terrorism and Genocide **Units: 3**
- ? SOC 169 - Sociology of Religion **Units: 3** or relevant topics courses (approved by the program coordinator)
- ? JS 181 - Anti-Semitism from the Medieval to Modern World **Units: 3**

Total: 15 Units

Contact

Jewish Studies Program
College of Social Sciences
5340 N. Campus Dr. M/S SS 21
Fresno, CA 93740-8019

jewishstudies@csufresno.edu
www.FresnoState.edu/jewishstudies

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 70 - Introduction to Latin American Studies **Units: 3**

Choose One of the Following:

- ? HIST 3 - Colonial Americas **Units: 3**
- ? HIST 8 - Republics of Latin America **Units: 3**

Upper-Division Courses (12 units)

Select from

- ? CLAS 112 - Pre-Hispanic Civilizations **Units: 3**

- ? CLAS 114 - Mexico and the Southwest 1810-1910 **Units: 3**
- ? CLAS 115 - Mexico-U.S. Relations Since-1910 **Units: 3**
- ? CLAS 180T - Topics of Chicano Society **Units: 1-3 ***
- ? CLAS 190 - Independent Study **Units: 1-3 ***
- ? AFRS 130T - Topics in Ethnic Studies **Units: 1-3 ***
- ? ARTH 173 - Pre-Columbian Mexico **Units: 3**
- ? ARTH 175 - Pre-Columbian Andes **Units: 3**
- ? ECON 114 - Economic Development of Poor Nations **Units: 3**
- ? ECON 178 - International Economics **Units: 3**
- ? ECON 179 - International Political Economy **Units: 3**
- ? ECON 181 - Political Economy of Latin America **Units: 3**
- ? ECON 188T - Topics in Macro and International Economics **Units: 1-3 ***
- ? SPAN 125 - Hispanic Cultural Productions (taught in Spanish) **Units: 3**
- ? SPAN 143 - Introduction to Spanish-American Literature **Units: 3**
- ? SPAN 145 - Mexican Literature **Units: 3**
- ? SPAN 147 - Twentieth Century Spanish-American Literature **Units: 3**
- ? SPAN 148T - Major Themes in Hispanic Literature **Units: 3 ***
- ? GEOG 170T - Latin American Regions **Units: 1-3**
- ? HIST 145 - Spain and Portugal **Units: 3**
- ? HIST 160 - The Great American Civilizations: Maya, Aztec, Inca **Units: 3**
- ? HIST 162 - South America **Units: 3**
- ? HIST 165 - Modern Mexico **Units: 3**
- ? HIST 166 - United States -- Latin American Diplomacy **Units: 3**
- ? HIST 169T - Studies in Latin American History **Units: 1-3**
- ? HIST 183 - The Hispanic Southwest **Units: 3**
- ? HUM 130 - Latin American Cultures and Traditions **Units: 3**
- ? PHIL 132 - Religion and the Margin **Units: 3**
- ? PLSI 121 - American Foreign Affairs **Units: 3**
- ? PLSI 126 - International Law and Organization **Units: 3**
- ? PLSI 146T - Area Studies in Latin America **Units: 1-4**
- ? WGSS 135 - Women In Cross-Cultural Perspective **Units: 3**

Total: 18 Units

Minor Advising Notes

- ? *Special topics or directed reading courses must have subject matter dealing with Latin America, the Caribbean, or must focus on issues affecting those areas.
- ? Courses taken to complete major requirements cannot be double-counted for the minor.
- ? Courses taken to complete General Education Integration requirements can be double-counted for the minor.
- ? Other acceptable courses can be substituted to satisfy minor requirements with approval of your CLAS advisor.

LGBTQ2+ Studies, Minor

LGBTQ2+ Studies, Minor requires a minimum of 15 units from the below required and elective courses. Courses from this list may

satisfy General Education and other graduation requirements as appropriate.

Required Course

- ? WGSS 11 - Introduction to LGBTQ+ Studies **Units: 3**

Select two (6 units):

- ? WGSS 103 - History of Feminisms **Units: 3**
- ? WGSS 143 - Feminist Theory **Units: 3**
- ? WGSS 153 - Feminist Research Methodologies **Units: 3**
- ? WGSS 172 - Transnational Feminisms: Histories, Foundations, and Debates **Units: 3**

Select two (6 units):

- ? WGSS 105 - Queer History of the United States **Units: 3**
OR
- ? HIST 155 - Queer History of the United States **Units: 3**
- ? WGSS 122 - Queer Indigenous and Queer of Color in the United States **Units: 3**
- ? WGSS 111 - LGBTQ+ Representation in Film & Video **Units: 3**
- ? WGSS 128 - Queering Migration: Sexuality, Gender, and Race in Migration and Borders **Units: 3**
OR
- ? SOC 133 - Queering Migration: Sexuality, Gender, and Race in Migration and Borders **Units: 3**
- ? WGSS 124 - Gender and Sexuality in Education **Units: 3**
- ? WGSS 151T - Topics in LGBTQ+ Studies **Units: 1-3 (for 3 units)**
- ? WGSS 178 - Lesbian & Gay Literature **Units: 4**

Total (15 units)

Linguistics, Minor

Linguistics Minor Requirements

- ? LING 100 - General Linguistics **Units: 3**
- ? LING 139 - General Phonetics **Units: 3**
- ? LING 142 - Phonology **Units: 3**
- ? LING 143 - Syntax **Units: 3**
- ? LING 148 - Sociolinguistics **Units: 3**
- ? LING 151 - Languages of the World **Units: 3**
- ? LING 154 - Field Linguistics **Units: 3**
- ? LING 165 - Language Acquisition **Units: 3**

Total: 24 Units

The minor also requires a 2.0 GPA and 6 upper-division units in residence.

Literature of Diversity, Minor

Literature of Diversity Minor Requirements

The English Department offers a Literature of Diversity minor with classes that focus the history and contemporary experiences of underrepresented groups.

Courses in the Literature of Diversity minor explore what is at stake in the reading, writing, and teaching of literary and cultural production that brings in diverse perspectives and explores their both commonalities and differences. The Literature of Diversity minor complements any major invested in understanding marginalized groups and their relationships to systems of power.

The Literature of Diversity minor requires 16 units selected from the following approved courses:

- ? ENGL 141 - African American Masterpieces of American Literature **Units: 4**
- ? ENGL 142 - American Indian Masterpieces of American Literature **Units: 4**
- ? ENGL 143 - Asian American Masterpieces of American Literature **Units: 4**
- ? ENGL 144 - Masterpieces of Chicana Literature **Units: 4**
- ? ENGL 168T - Women and Literature **Units: 4**
- ? ENGL 173 - Cultural Rhetoric(s) **Units: 4**
- ? ENGL 178 - Lesbian & Gay Literature **Units: 4**
- ? ENGL 179 - Multi-Ethnic Literature and Writing **Units: 4**

Note:

The Literature of Diversity Minor also requires a 2.0 GPA.

Marketing, Minor

Marketing Minor Requirements

Required (12 units)

- ? MKTG 100S - Marketing Concepts **Units: 4**
- ? MKTG 101 - Marketing Research **Units: 4**
- ? MKTG 132 - Promotion Mix: Principles and Practices **Units: 4**

Electives (7-8 units)

Select from:

- ? MKTG 110 - Consumer Behavior **Units: 4**
- ? MKTG 130 - Retail Managing and Merchandising **Units: 4**
- ? MKTG 134 - Entrepreneurial Marketing **Units: 4**
- ? MKTG 140 - Global Marketing **Units: 4**
- ? MKTG 144 - Services Marketing **Units: 4**
- ? MKTG 153 - E-Marketing Technologies and Social Media **Units: 4**
- ? MKTG 150 - Sports Marketing **Units: 3**
- ? MKTG 160 - Professional Selling & Sales Force Management **Units: 4**
- ? MKTG 161 - Sports Licensing, Sponsorship, and Promotion **Units: 4**
- ? MKTG 162 - Healthcare Marketing **Units: 2**
- ? MKTG 163 - Political Marketing **Units: 2**
- ? MKTG 164 - Profitability and Pricing **Units: 2**
- ? MKTG 165 - Marketing to the Base of the Pyramid **Units: 2**
- ? MKTG 166 - Principles and Practices of Branding **Units: 2**
- ? MKTG 167 - Environmental Sustainability & Marketing **Units: 2**
- ? MKTG 114 - Principles of Logistics and Supply Chain **Units: 4**
- ? MKTG 115 - Global Logistics and Supply Chain Strategies **Units: 4**
- ? MKTG 126 - Purchasing and Materials Management **Units: 4**

Total: 19-20 Units

Advising Notes

? Departments will provide permission into courses after evaluating appropriate similar prerequisites have been completed. In the case of MKTG 100S permission will be given if the student shows successful completion a W course.

? Students must earn a grade of C or better in each course. No course may be taken as CR/NC. Students must have a 2.0 GPA and 6 upper-division units in residence.

Mass Communication and Journalism, Minor

Mass Communication and Journalism Minor Requirements

Required (6 units)

- ? MCJ 1 - Mass Communication and Society **Units: 3**
- ? MCJ 2 - Media Writing **Units: 3**

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 and Journalism 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 - Calculus I **Units: 4**

OR

? MATH 75B - Calculus with Review IB **Units: 4**

Or above, excluding:

? MATH 75A - Calculus with Review IA **Units: 4**

? MATH 100 - Exploring Mathematics **Units: 3**

? MATH 133 - Number Theory for Liberal Studies **Units: 3**

? MATH 134 - Geometry for Liberal Studies **Units: 3**

? MATH 137 - Exploring Statistics **Units: 3**

? MATH 138 - Exploring Algebra **Units: 3**

? MATH 139 - Advanced Algebra for Middle School Teachers **Units: 4**

? MATH 149S - Capstone Mathematics for Teachers **Units: 4**

Minor Advising Notes

? Students cannot receive credit for both MATH 101 and MATH 102 towards the Mathematics Minor.

? All courses in the Mathematics Minor must be taken for a letter grade. CR/NC grading is not acceptable

? 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 advisor 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 - Design **Units: 3**

? GD 35 - Visual Communications Fundamentals **Units: 3**

? MCJ 3 - Introduction to Multimedia Production **Units: 3**

? MUSIC 9 - Introduction to Music **Units: 3**

Select One Course From:

? MUSIC 47 - Introduction to Music Technology **Units: 2**

? ART 30 - Introduction to Photography **Units: 3**

? ART 37 - Introduction to Computer Art **Units: 3**

? GD 37 - Graphic Design: Computer Imaging **Units: 3**

Upper-Division Courses (12 units)

Select four courses from:

? ART 133 - Alternative Approaches to Digital Imagery **Units: 3**

? ART 185 - Color Photography **Units: 3**

? ART 181 - 2-D Animation 1 **Units: 3**

? ART 188 - Digital Video Art **Units: 3**

? MCJ 106 - Publication Design **Units: 3**

? MCJ 112 - Audio Production **Units: 3**

? MCJ 115 - Filmmaking II **Units: 3**

? MCJ 131 - Online Media Design **Units: 3**

? MUSIC 147 - Digital Music Production **Units: 3**

Total: 20-21 Units

For more information and advising, contact the Department of Media, Communications, and Journalism 559.278.2087.

Medical Physics, Minor

Medical Physics Minor Requirements

? PHYS 4A - Mechanics and Wave Motion **Units: 3**

? PHYS 4AL - Laboratory in Mechanics and Wave Motion **Units: 1**

? PHYS 4B - Electricity, Magnetism, and Heat **Units: 3**

? PHYS 4BL - Laboratory in Electricity, Magnetism, and Heat **Units: 1**

? PHYS 4C - Light and Modern Physics **Units: 3**

? PHYS 136 - Radiation Physics **Units: 3**

? PHYS 137 - Radiation Measurements Laboratory **Units: 3**

Choose One Course From

? PHYS 135 - Introduction to Magnetic Resonance Imaging and Spectroscopy **Units: 3**

? PHYS 157 - Nuclear Medicine Physics **Units: 3**

? PHYS 175T - Topics in Contemporary Physics **Units: 1-4**

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 - Introduction to Weather and Climate **Units: 3**
- ? GEOG 111 - Meteorology **Units: 3**
- ? GEOG 112 - Climatology **Units: 3**
- ? GEOG 114 - Micrometeorology **Units: 3**

Electives (9 units)*

With the approval of a program adviser, elect 9 units from the following list of courses:

- ? CHEM 3A - Introductory General Chemistry **Units: 4**
- ? CSCI 40 - Introduction to Programming and Problem Solving **Units: 4**
- ? EES 109 - Atmospheric Science **Units: 3**
- ? EES 125 - Global Paleoclimates **Units: 3**
- ? EES 167 - Oceans and Atmosphere and Climate **Units: 3**
- ? GEOG 118 - Air Quality Meteorology **Units: 3**
- ? PHYS 2A - General Physics **Units: 4**

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 departments 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 - Introduction to Modern Middle East **Units: 3** (Area D2)

Lower-Division Language Requirement (6-8 units)

Select from:

- ? ARAB 1A - Elementary Arabic A **Units: 4**
- ? ARAB 1B - Elementary Arabic B **Units: 4**
- ? ARM 1A - Elementary Armenian **Units: 4**
- ? ARM 1B - Elementary Armenian **Units: 4**
- ? HEBR 1A - Basic Hebrew **Units: 4**
- ? HEBR 1B - Basic Hebrew **Units: 3**
- ? PERS 1A - Elementary Modern Persian **Units: 3**
- ? PERS 1B - Elementary Modern Persian B **Units: 3**

(some courses fulfill G.E. Area C2)

Electives (Select 4 Courses) (12 units)

- ? ANTH 135 - Muslim Communities in the Middle East **Units: 3**
- ? ECON 183 - Political Economy of the Middle East **Units: 3**
- ? ENGL 179 - Multi-Ethnic Literature and Writing **Units: 4**
- ? HIST 107 - Modern Middle East **Units: 3**
- ? HIST 109T - Studies in Middle East and Africa **Units: 1-3**
- ? HIST 110 - Ancient Near East **Units: 3**
- ? MUSIC 171 - Introduction to the World's Music **Units: 3**
- ? PHIL 139 - Islam **Units: 3**

- ? PHIL 158 - Judaism **Units: 3**
- ? PLSI 144T - Area Studies in Africa and Middle East **Units: 1-4**
- ? SSCI 150T - Topics in the Social Sciences **Units: 1-3**

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 20 units (17 upper-division) necessary for commissioning will be eligible for a Minor in Military Science. Coordination with the department faculty advisor is required.

Required Courses (20 units)

- ? MS 50A - Freshman Leadership Laboratory **Units: 1**
- ? MS 50B - Sophomore Leadership Laboratory **Units: 1**
- ? MS 131 - Training Management and the Warfighting Functions **Units: 3**
- ? MS 132 - Applied Leadership in Small Unit Operations **Units: 3**
- ? MS 141 - The Army Officer **Units: 3**
- ? MS 142 - Company Grade Leadership **Units: 3**
- ? MS 150A - Junior Leadership Laboratory **Units: 1**
- ? MS 150B - Senior Leadership Laboratory **Units: 1**
- ? MS 192 - Military History **Units: 3**
- ? KAC 21 - Elementary Strength Training **Units: 1**

Total: 20 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 advisor to ensure their planned course of study will satisfy this requirement prior to graduation and commissioning.

Music Technology, Minor

The Minor in Music Technology consists of a minimum of 20 units, of which 9 units must be upper-division courses.

Required Courses

- ? MUSIC 45 - Music Recording Techniques **Units: 3**
- ? MUSIC 47 - Introduction to Music Technology **Units: 2**

Music Technology Courses

- ? MUSIC 46 - Live Sound Reinforcement **Units: 3**
- ? MUSIC 145 - Audio and Music for Visual Media **Units: 3**
- ? MUSIC 146 - Composing for Media **Units: 3**
- ? MUSIC 147 - Digital Music Production **Units: 3**
- ? MUSIC 149 - Computer Music **Units: 3**

Alternative Elective Course (0-3 units)

The following course may be selected instead of one 3-unit MUSIC Course: MCJ 112 - Audio Production

Total (20 units)

The Minor in Music Technology also requires a 2.0 GPA and at least 6 upper division units in residence.

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. Upon conclusion of the third semester of MUSIC 31-MUSIC 39, or MUSIC 48, students must attempt the Music Minor Proficiency in their declared area of concentration. (LIMIT TWO ATTEMPTS). Successful completion of the Music Minor degree is contingent on the student passing this Proficiency.

Required (9 units)

- ? MUSIC 40 - Theory and Literature I **Units: 3**
- ? MUSIC 41 - Theory and Literature II **Units: 3**
- ? MUSIC 74 - Listener's Guide to Music **Units: 3**
- OR**
- ? MUSIC 1A - Ear Training and Sight Singing I **Units: 1**
- ? MUSIC 47 - Introduction to Music Technology **Units: 2**
- OR**
- ? MUSIC 58 - Basic Conducting **Units: 2**

Studio Instruction (4 units)

Choose one of the following (concurrent enrollment in approved Performance unit required):

- ? MUSIC 31
- ? MUSIC 32 - Instrumental, Vocal, & Composition Lessons
Units: 1
- ? MUSIC 33
- ? MUSIC 34 - Instrumental, Vocal, & Composition Lessons
Units: 1
- ? MUSIC 35
- ? MUSIC 38 - Instrumental, Vocal, & Composition Lessons
Units: 1
- ? MUSIC 39 - Instrumental, Vocal, & Composition Lessons
Units: 1
- ? MUSIC 48 - Seminar in Composition **Units: 2**

Performance (4 units)

Choose from the following:

- ? MUSIC 102
- ? MUSIC 103
- ? MUSIC 117
- ? MUSIC 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 - Topics in Music History and Literature **Units: 1-3**
- ? MUSIC 161A - Survey of Western Art Music I **Units: 3**
- ? MUSIC 161B - Survey of Western Art Music II **Units: 3**
- ? MUSIC 170A - Music of the Americas: Latin America **Units: 3**
- ? MUSIC 170B - Music of the Americas: United States **Units: 3**
- ? MUSIC 171 - Introduction to the World's Music **Units: 3**
- ? MUSIC 187 - Pop Music: Jazz and Rock **Units: 3**

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:

- ? 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.
- ? PAX 185I - Internship (3 units) or PAX 190 - Independent Study (3 units).
- ? PAX 100 - Peace and Conflict Studies (3 units) - Provides an overview of causes and types of conflict, critical examination of issues related to war, peace, and justice.
- ? The minor also requires a minimum 2.0 GPA and six upper-division units in residence.
- ? Courses also can fulfill General Education requirements as appropriate.

Areas of Study

AREA I - Personal and Interpersonal Issues

- ? SOC 162 - Social Psychology **Units: 3**
- ? SOC 165 - The Family **Units: 3**
- ? SOC 168 - Interpersonal Relationships **Units: 3**
- ? COMM 108 - Communication and the Small Group **Units: 3**
- ? COMM 162 - Interpersonal Communication **Units: 3**
- ? PHIL 10 - Self, Religion, and Society **Units: 3**
- ? PHIL 157 - Freedom, Fate, and Choice **Units: 3**
- ? PSYCH 61 - Personal Adjustment **Units: 3**

AREA II - Community and Social Issues

- ? ANTH 120 - Race and Ethnic Relations in the U.S. **Units: 3**
- ? AFRS 144 - Race Relations **Units: 3**
- ? CRIM 140 - Family Violence **Units: 3**
- ? CLAS 128 - Latinx Politics **Units: 3**
- ? SOC 111 - Sociology of Race and Ethnicity **Units: 3**
- ? PHIL 120 - Contemporary Conflicts of Morals **Units: 3**
- ? PHIL 125W - Issues in Political Philosophy **Units: 3**
- ? WGSS 108 - Rape and Sexual Assault **Units: 1**
- ? WGSS 116 - Domestic Violence **Units: 1**

AREA III - International and Global Issues

- ? AGRS 140 - International Agricultural Economics **Units: 3**
- ? AFRS 150 - South Africa **Units: 3**

- ? BA 174 - Introduction to International Business **Units: 3**
- ? ECON 114 - Economic Development of Poor Nations **Units: 3**
- ? ECON 179 - International Political Economy **Units: 3**
- ? GEOG 163 - World Crises **Units: 3**
- ? HIST 105 - Armenian Genocide in Comparative Context **Units: 3**
- ? PLSI 120 - International Politics **Units: 3**
- ? PLSI 121 - American Foreign Affairs **Units: 3**
- ? PLSI 122 - Politics of Foreign Aid **Units: 3**
- ? PLSI 125 - Russian Foreign Policy **Units: 3**
- ? SOC 157 - Social Change **Units: 3**

AREA IV - Conflict Management

- ? AGBS 117 - Agricultural Labor-Management Relations **Units: 3**
- ? HIST 166 - United States -- Latin American Diplomacy **Units: 3**
- ? HRM 152 - Labor Relations and Collective Bargaining **Units: 3**
- ? PLSI 126 - International Law and Organization **Units: 3**
- ? COMM 164 - Intercultural Communication **Units: 3**
- ? COMM 169 - Communication and Conflict **Units: 3**

AREA V - Education for Peace and Nonviolence

- ? AFRS 145 - Life and Times of Martin Luther King Jr. **Units: 3**
- ? KINES 111 - The Olympic Games **Units: 3**
- ? PHIL 131 - Comparative Religion **Units: 3**
- ? SOC 122 - Social Movements **Units: 3**

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 service-learning 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 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.

Required Core Coursework* (19 units minimum):

***Note:** The Philanthropic and Community-based Leadership Minor also requires a 2.0 GPA and at least 12 units in residence. CR/NC grading is not permitted except for courses offered only under CR/NC grading.

Select from:

- ? SOC 144 - Social Policy Analysis **Units: 3**
- ? SOC 183S - Philanthropy and Grant Making **Units: 3**
- ? SOC 184S - Grant Writing & Evaluation **Units: 3**
- ? SOC 185I - Field Experience in Sociology **Units: 1-6**
- ? SOC 186S - Governance, Administrative Principles, & Financial Literacy **Units: 3**
- ? SOC 190 - Independent Study **Units: 1-3**

Select one course from (3 units)

- ? SOC 187SE - Entrepreneurial Approaches to Sustainable CBOS **Units: 3**
- ? MGT 133S - Managing Nonprofit and Socially Responsible, Sustainable Organizations **Units: 3**
- ? ENTR 163E - Social Entrepreneurship **Units: 3**

Elective Options (3 units minimum)

- ? ACCT 148 - Accounting for Governmental and Nonprofit Organizations **Units: 4**
- ? ANTH 111 - Ethnographic Fieldwork **Units: 3**
- ? COMM 164 - Intercultural Communication **Units: 3**
- ? COMM 167 - Leadership in Groups and Organizations **Units: 3**
- ? COMM 168 - Communication in Organizations **Units: 3**
- ? COMM 171 - Communication and Planning Change in the Social System **Units: 3**

? COMM 176 - Communication Consulting and Training **Units: 3**
 ? CRIM 150 - Victim Services Program Management **Units: 3**
 ? CRIM 176 - Victim Services **Units: 3**
 ? ECON 119 - Urban & Regional Economics **Units: 3**
 ? GERON 125 - Social Services for the Aging **Units: 3**
 ? HRM 150 - Administration of Personnel **Units: 3**
 ? MCJ 152S - Fundamentals of Public Relations **Units: 3**
 ? MGT 127 - Contemporary Leadership **Units: 3**
 ? MKTG 100S - Marketing Concepts **Units: 4**
 ? MKTG 144 - Services Marketing **Units: 4**
 ? PAX 110 - Peace Building **Units: 3**
 ? PAX 120 - Mediation **Units: 3**
 ? PH 100 - Community Health **Units: 3**
 ? PH 163 - Public Health Administration **Units: 3**
 ? PHIL 122 - Introduction to Professional Ethics **Units: 3**
 ? PLSI 181 - Public Administration **Units: 3**
 ? PLSI 182 - Administrative Analysis: Management and Organization **Units: 3**
 ? PLSI 183 - Comparative Administration **Units: 3**
 ? PLSI 185 - Public Personnel Management **Units: 3**
 ? PSYCH 155 - Developmental Psychology **Units: 4**
 ? PSYCH 156 - Social Psychology **Units: 4**
 ? PSYCH 176 - Industrial Psychology **Units: 3**
 ? RA 113 - Programming for Youth At-Risk **Units: 3**
 ? RA 115 - Community Placements in Leisure Settings **Units: 1-3**
 ? RA 117 - Special Event Planning **Units: 3**
 ? RA 121 - Community and Non-Profit Recreation Services **Units: 3**
 ? RA 125 - Diversity and Inclusive Practices in Recreation Therapy and Recreation **Units: 3**
 ? RA 135 - Recreation, Parks, and Tourism Marketing **Units: 3**
 ? SOC 130W - Contemporary Social Issues **Units: 4**
OR
 ? SOC 130WS - Contemporary Social Issues **Units: 4**
 ? SWRK 123 - Social Welfare Policies and Programs **Units: 3**
 ? SWRK 125 - Social Services for the Aging **Units: 3**
 ? SWRK 136 - Cultural Diversity and Oppression **Units: 3**
 ? SWRK 137 - Principles in Cross-Cultural Competence **Units: 3**
 ? SWRK 152 - Introduction to Mediation & Conflict Resolution for Human Service Professionals **Units: 3**
 ? WGSS 162 - Community Service in Women's Studies **Units: 1-3**

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:

Group A

? CHEM 3A - Introductory General Chemistry **Units: 4 ***
AND
 ? CHEM 3B - Introductory Organic and Biochemistry **Units: 3 ***
 ? PHYS 2A - General Physics **Units: 4 ***
AND
 ? PHYS 2B - General Physics **Units: 4 ***
 ? Upper-division electives **Units: 6 ****

Total: 21 Units

Group B

? CHEM 10 - Chemistry and Society **Units: 4**
 ? PHYS 2A - General Physics **Units: 4 ***
AND
 ? PHYS 2B - General Physics **Units: 4 ***
 ? EES 1 - Natural Disasters and Earth Resources **Units: 4**
 ? Upper-division electives **Units: 6 ****

Total: 22 Units

Group C

? CHEM 3A - Introductory General Chemistry **Units: 4 ***
AND
 ? CHEM 3B - Introductory Organic and Biochemistry **Units: 3 ***
 ? PHYS 10 - Conceptual Physics **Units: 4**
 ? EES 1 - Natural Disasters and Earth Resources **Units: 4**
 ? Upper-division electives **Units: 6 ****

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/CHEM 1AL may be substituted for CHEM 3A, and CHEM 1B/CHEM 1BL may be substituted for CHEM 3B. PHYS 4A and PHYS 4AL may be substituted for PHYS 2A, and PHYS 4B and PHYS 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, EES 114, EES 154, EES 168, PHYS 100, PSCI 131, PSCI 168.

Physics, Minor

Physics Minor Requirements

- ? PHYS 4A - Mechanics and Wave Motion **Units: 3**
- ? PHYS 4AL - Laboratory in Mechanics and Wave Motion **Units: 1**
- ? PHYS 4B - Electricity, Magnetism, and Heat **Units: 3**
- ? PHYS 4BL - Laboratory in Electricity, Magnetism, and Heat **Units: 1**
- ? PHYS 4C - Light and Modern Physics **Units: 3**
- ? PHYS 102 - Modern Physics **Units: 3**
- ? Other upper-division physics **Units: 6**

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 **Units: 3**
- ? PLANT 107 - Plant Propagation **Units: 3**
- ? PLANT 150 - Crop Improvement **Units: 3**

Select From the Following (6 units)

- ? PLANT 162 - Economic Entomology **Units: 3** * (BIOL 1A or BIOL 11)
- ? PLANT 160 - Weed Science **Units: 3** * (BIOL 1A or BIOL 11 and CHEM 3A)
- ? PLANT 161 - Plant Pathology **Units: 3** * (BIOL 1A or BIOL 11)

Select From the Following (3 units)

- ? PLANT 71 - Agricultural Water **Units: 3**
- ? PLANT 172 - Soils **Units: 3**

Select from one of the following three prefix groups in Plant Science in consultation with an academic advisor (9 units)

(at least 6 units must be upper division)

- ? Group 1: PLANT (crop science, soils and water)
- ? Group 2: PLANT (horticulture, ornamental horticulture), VIT (viticulture)
- ? Group 3: PLANT (plant health)

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.

- ? PLSI 1 - Modern Politics **Units: 3**

- ? PLSI 110 - Seminar in History of Political Thought to Machiavelli **Units: 3**
- ? PLSI 111 - Seminar in History of Political Thought Since Machiavelli **Units: 3**
- ? PLSI 120 - International Politics **Units: 3**
- ? PLSI 140 - Approaches to Comparative Politics **Units: 3**
- OR**
- ? PLSI 150 - Public Policy Making **Units: 3**

? Political Science upper-division courses (exclude PLSI 100W) **Units: 15**

Total: 21 Units

Portuguese Studies, Minor

Portuguese Studies Minor Requirements

Lower-Division Courses: (8 units)

(see notes 1 and 2)

- ? PORT 1A - Elementary Portuguese **Units: 4**
- ? PORT 1B - Elementary Portuguese **Units: 4**

Upper-Division Courses (9 units) - Select from:

- ? PORT 101 - Portuguese and Brazilian Literatures **Units: 3**
- ? PORT 102 - Cultures of the Azorean Isles **Units: 3**
- ? PORT 103 - European and Latin American Film: Portugal and Brazil **Units: 3**
- ? HUM 105 - Cultures of the Portuguese-Speaking World **Units: 3**

Approved Electives - 3 units

(see note 3)

Total: 20 units

Advising Notes

- ? Students can enroll directly in PORT 1B, PORT 2A and PORT 2B with permission of instructor. Enrolling in lower level language classes prior to higher level is recommended.
- ? Students with two or more years of high school Portuguese credit can waive elementary level language courses (PORT 1A and PORT 1B).

- ? Approved elective course must have subject matter dealing with the Portuguese-speaking countries, or must focus on issues affecting those areas. See advisor for details.
- ? The Minor in Portuguese Studies Minor also requires a 2.0 GPA and 6 upper-division units in residence.
- ? Independent Study Course (1-3 units) must be approved by advisor.

Portuguese, Minor

Portuguese Minor Requirements

Lower-Division Courses (14 units):

- ? PORT 1A - Elementary Portuguese **Units: 4**
- ? PORT 1B - Elementary Portuguese **Units: 4**
- ? PORT 2A - Intermediate Portuguese **Units: 3**
- ? PORT 2B - Intermediate Portuguese **Units: 3** (see notes 1 and 2)

Upper-Division Courses in Portuguese - (6 units) Select from :

- ? PORT 101 - Portuguese and Brazilian Literatures **Units: 3**
- ? PORT 102 - Cultures of the Azorean Isles **Units: 3**
- ? PORT 103 - European and Latin American Film: Portugal and Brazil **Units: 3**
- ? HUM 105 - Cultures of the Portuguese-Speaking World **Units: 3**

Total: 20 units

Advising Notes

- ? students can enroll directly in PORT 1B, PORT 2A and PORT 2B with permission of the instructor. Enrolling in lower level language classes prior to higher level is recommended.
- ? According to courses' prerequisites, students with two or more years of high school Portuguese credit can waive elementary level language courses (PORT 1A and PORT 1B).
- ? The Minor in Portuguese also requires a 2.0 GPA and 6 upper-division units in residence.

Precision Agriculture Technology Minor

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 194I 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 - Electricity and Electronics **Units: 3**
- ? IT 116 - Applied Visual Programming **Units: 3**

Semester 2 (6 units)

- ? IT 156 - Automated Systems II **Units: 3**
- ? IT 186 - Applied Spatial Technology **Units: 3**

Semester 3 (3 units)

Choice of topic must be related to the minor.

- ? IT 190 - Independent Study **Units: 1-3**
OR
- ? IT 194I - Cooperative Education in Industrial Technology **Units: 1-4**
OR
- ? IT 199 - Senior Problem in Industrial Technology **Units: 3**
(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 Advisor. The minor consists of 22 units of psychology courses, 15 of which must be upper division. The required courses, each of which must be completed with a grade of C or better, are PSYCH 10, PSYCH 42 or a similar statistics course, and PSYCH 144 (Research Methods) or a similar research methods course. Students choose the remaining courses based on their own interests and goals.

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.

Select 12 units from:

- ? PLSI 1 - Modern Politics **Units: 3**
- ? PLSI 181 - Public Administration **Units: 3**
- ? PLSI 182 - Administrative Analysis: Management and Organization **Units: 3**
- ? PLSI 183 - Comparative Administration **Units: 3**
- ? PLSI 184 - Public Budgeting and Economy Policy **Units: 3**
- ? PLSI 185 - Public Personnel Management **Units: 3**

Select 9 units from:

- ? PLSI 103 - California Politics **Units: 3**
- ? PLSI 110 - Seminar in History of Political Thought to Machiavelli **Units: 3**
- ? PLSI 111 - Seminar in History of Political Thought Since Machiavelli **Units: 3**
- ? PLSI 114 - Seminar in American Political Thought **Units: 3**
- ? PLSI 150 - Public Policy Making **Units: 3**
- ? PLSI 151 - Political Participation and Political Parties **Units: 3**
- ? PLSI 160 - State and Local Governments **Units: 3**
- ? PLSI 163 - Municipal Government **Units: 3**
- ? PLSI 170 - Constitutional Law, the Federal Structure **Units: 3**
- ? PLSI 175 - Water Politics and Policy **Units: 3**

Total: 21 Units

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 - Public Health Statistics **Units: 3**
- ? PH 100 - Community Health **Units: 3**
- ? PH 109 - Epidemiology of Disease **Units: 3**
- ? PH 161 - Environment and Human Health **Units: 3**
- ? PH 163 - Public Health Administration **Units: 3**

Additional Requirements (9 units)

Take all three courses from one of the following special topic areas:

Health Foundations

- ? PH 114 - Health Behavior **Units: 3**
- ? PH 131 - Principles of Health Education **Units: 3**
- ? PH 188I - Health Education Internship **Units: 1-3**

Health Care Utilization

- ? PH 104 - Global and Cultural Issues in Health **Units: 3**
- ? PH 129 - Rural Health **Units: 3**
- ? PH 154 - Health Care Administration **Units: 3**

Environmental Occupational Health and Safety

- ? PH 162 - Environmental Health Concepts **Units: 3**
- ? PH 170 - Air Pollution and Health **Units: 3**
- ? PH 175I - Environmental Internship **Units: 1-4**

Total: 24 Units

Recreation Administration, Minor

The Minor in Recreation Administration consists of 21 units. Students completing the minor develop a basic knowledge of leisure services management that has application in many diverse fields.

Recreation Administration Minor Requirements

- ? RA 55 - Foundations and Careers in Recreation, Parks, and Tourism **Units: 3**
- ? RA 73S - Leadership in Recreation, Parks, and Tourism **Units: 3**
- ? RA 77S - Recreation, Parks, and Tourism Programming **Units: 3**
- ? RA 125 - Diversity and Inclusive Practices in Recreation Therapy and Recreation **Units: 3**

- ? RA 80 - Lifelong Learning in the Natural Environment **Units: 3**

OR

- ? RA 101 - Leisure and Human Behavior **Units: 3**

Select one from (6 units)

- ? RA 121 - Community and Non-Profit Recreation Services **Units: 3**
- ? RA 131 - Foundations of Special Events and Tourism **Units: 3**
- ? RA 133 - Recreation and Parks Facilities Planning and Operations **Units: 3**
- ? RA 142 - Foundations of Recreation Therapy **Units: 3**

- ? RA 146 - Adventure Based Programming **Units: 3**
- ? AND be concurrently enrolled in RA 115 (**3 units**)

Total: 21 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 (7 units)

- ? SOC 1 - Principles of Sociology **Units: 3**
- OR**
- ? SOC 1S - Principles of Sociology **Units: 3**
- ? SOC 125 - Statistics for the Social Sciences **Units: 4**

Sociology Upper-Division Electives (15 units)

Students may substitute SOC 3 or SOC 3S or SSCI 16 for 3 units of upper-division electives

Total: 22 Units

Note: Other statistics courses may be used to fulfill the SOC 125 requirement, although 22 units of sociology coursework must be completed. 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

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 the Department of Anthropology at 559.278.3002.

Lower-Division Courses (6 units)

- ? ASAM 15 - Introduction to Asian Americans **Units: 3**
- ? ARTH 12 - Asian Art **Units: 3**

Language Courses (6 units)

(Pre-approved by coordinator)

- ? HMONG 1A - Basic Hmong **Units: 4**
- ? HMONG 1B - Basic Hmong **Units: 4**
- ? HMONG 4 - Beginning Literacy for Hmong Speakers **Units: 3**
- ? HMONG 100 - Intermediate Reading and Composition **Units: 3**
- ? HMONG 101
- ? LING 140T - Topics in Linguistics **Units: 1-4**
- ? LING 121 - Hmong Language, Culture, and Identity **Units: 3**
- ? LING 190 - Independent Study **Units: 1-3**

Upper-Division Courses (9 units)

Select from:

- ? ANTH 123 - Peoples and Cultures of Southeast Asia **Units: 3**
- ? ANTH 190 - Independent Study **Units: 1-3**
- ? ARTH 140 - Arts of Southeast Asia **Units: 3**
- ? ARTH 143 - Kingdoms of Monsoon Asia **Units: 3**
- ? ARTH 190 - Independent Study **Units: 1-3**
- ? ASAM 110 - Asian American Communities **Units: 3**
- ? ASAM 138 - Asian American Women **Units: 3**
- ? ASAM 140 - Hmong, Laotian and Cambodian American Experience **Units: 3**
- ? ASAM 190 - Independent Study **Units: 1-3**
- ? GEOG 177T - Asian Regions **Units: 1-3**

Total: 21 Units

Note: The minor also requires a 2.0 GPA and 6 upper-division units in residence.

Notes

? 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.

Spanish, Minor

Spanish Minor Requirements

Depending on the specific minor, the student is responsible for 18-21 units. The minor also requires a 2.0 GPA and 6 upper-division units in residence. Consult a departmental advisor for planning your program.

See Classical Studies and Humanities for their minors.

Select From (0-9 units)

- ? SPAN 2A - Spanish for Communication **Units: 3**
- ? SPAN 2B - Spanish for Communication **Units: 3**
- ? SPAN 3 - Reading and Writing **Units: 3**
- ? SPAN 4A - Spanish for the Bilingual Student **Units: 3**
- ? SPAN 4B - Spanish for the Bilingual Student **Units: 3**
- ? SPAN 5 - Spanish for Conversation **Units: 3**

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

Minor in Sports Coaching Requirements

- ? KINES 25 - Conditioning and Resistance Training Techniques **Units: 1**
- ? KINES 33 - Foundation of Sport Exercise Psychology **Units: 3**
- ? KINES 45 - Introduction to Sport Administration **Units: 3**
- ? KINES 48 - Emergency Management of Athletic Trauma **Units: 3**
- ? KINES 162 - Coaching Concepts **Units: 3**
- ? KINES 125A - Coaching Football **Units: 3**
- OR**
- ? KINES 125B - Coaching Basketball **Units: 3**
- OR**
- ? KINES 125C - Coaching Track and Field **Units: 3**
- OR**
- ? KINES 125D - Coaching Baseball **Units: 3**
- OR**
- ? KINES 172SI - Seminar in Coaching and Sport Leadership **Units: 3**
- OR**
- ? KINES 190 - Independent Study **Units: 1-3**

Total: 18 Units

Note: The Coaching Minor also requires a 2.5 GPA.

Advising Notes

- ? Students must consult with an adviser.
- ? Advanced First Aid and CPR must be current at the time of graduation.

Statistics, Minor

Statistics Minor Requirements

Required Courses (13-14 units)

- ? MATH 70 - Calculus for Life Sciences **Units: 4**
OR
- ? MATH 75 - Calculus I **Units: 4**
- ? MATH 101 - Statistical Methods **Units: 4**
OR
- ? MATH 102 - Introduction to Biostatistics **Units: 4**
OR
- ? MATH 107 - Mathematical Statistics **Units: 3**
- ? MATH 105 - Statistical Programming and Data Analysis **Units: 3**
- ? MATH 106 - Applied Linear Statistical Models **Units: 3**

Elective Courses (6-9 units)

Students select two courses from the following list:

- ? An approved statistics-related MATH 191T course (see advising note 1) **Units: 3**
- ? MATH 107 - Mathematical Statistics **Units: 3**
- ? MATH 108 - Advanced Mathematical Statistics **Units: 3**
- ? MATH 109 - Applied Probability **Units: 3**

One Upper-Division Statistics-Related Course Selected From the Following List: (3-5 units):

- ? PSYCH 143 - Intermediate Computer-based Statistical Analysis **Units: 4**
- ? PSYCH 144 - Research Designs and Experimental Methods **Units: 5**
- ? SOC 125 - Statistics for the Social Sciences **Units: 4**
- ? ME 125 - Engineering Statistics and Experimentation **Units: 3**
- ? ECE 125 - Probabilistic Engineering Systems Analysis **Units: 3**
- ? AGBS 105 - Agricultural Business Quantitative Methods **Units: 3**
- ? DS 135 - Data Analytics **Units: 3**
- ? ECON 123 - Introduction to Econometrics **Units: 3**
- ? CSCI 154 - Simulation **Units: 3**
- ? CSCI 164 - Artificial Intelligence Programming **Units: 3**

Advising Notes

- ? The Mathematics Department will maintain a list of approved courses. The Statistics Minor also requires a 2.0 GPA and 6 upper-division units in residence.
- ? Courses in a major cannot be applied toward a minor unless designated as additional requirements.
- ? Students earning the B.S. in Mathematics - Statistics Option cannot earn the Statistics Minor.
- ? All courses in the minor must be taken for a letter grade. CR/NC grading is not acceptable.
- ? All courses taken to fulfill minor requirements must be completed with a grade of C or better.
- ? A minor may be earned only at the time a student earns the first baccalaureate degree.

Survey Engineering, Minor

Geomatics Engineering is an integral part of every engineering project. Geomatics Engineers work closely with Civil Engineers to provide necessary data for design and work closely with Construction managers in the building process of the Civil engineer's design. Adding the Survey Engineering Minor will enhance future internships and employment opportunities before and after graduation. The Survey Engineering Minor will bridge a relationship and communication gap that commonly exists due to lack of understanding of each other's specific roles and how to accomplish each other's responsibilities.

Survey Emphasis

The minor requires a total of 18 units, of which 10 units must be exclusive (not double counted for a major or another minor), from the following courses:

- ? GME 15 - Engineering Surveying **Units: 3**
AND
- ? GME 15L - Engineering Surveying Laboratory **Units: 1**
- ? GME 16 - Municipal Surveying **Units: 3**
AND
- ? GME 16L - Municipal Surveying Laboratory **Units: 1**
- ? GME 40 - Route and Construction Surveying **Units: 4**
- ? GME 50 - Land Surveying **Units: 3**
- ? GME 66L - Computer-Aided Mapping **Units: 1**
- ? GME 151 - Boundary Control and Legal Principles **Units: 3**
- ? GME 152 - Real Property Descriptions **Units: 3**
- ? GME 159 - Subdivision Design **Units: 3**
- ? GME 173 - Introduction to GIS **Units: 3**
- ? GME 174 - GIS Applications **Units: 3**

Total (18 units)

Advising Notes

- ? Students must meet with an advisor from the Geomatics Engineering Department to create a pathway for completion of the minor
- ? All course prerequisites are enforced
- ? Courses in Survey Engineering Minor must be taken for a letter grade

Teaching English as a Second Language, Minor

TESL Minor Requirements

- ? LING 100 - General Linguistics **Units: 3**
- ? LING 155 - Computer Assisted Language Learning **Units: 3**
- ? LING 141 - TESOL/SLAT (Second Language Acquisition & Teaching) **Units: 3**
- ? LING 146 - Practical English Grammar for Language Teachers **Units: 3**
- ? LING 1711 - Practicum in TESOL/SLAT **Units: 3**
- ? Approved electives **Units: 6**

Select From:

- ? LING 139 - General Phonetics **Units: 3**
- ? LING 142 - Phonology **Units: 3**
- ? LING 143 - Syntax **Units: 3**
- ? LING 144 - Discourse Analysis **Units: 3**
- ? LING 147 - Bilingualism **Units: 3**
- ? LING 148 - Sociolinguistics **Units: 3**
- ? LING 165 - Language Acquisition **Units: 3**

Total: 21 Units

Note: The minor also requires a 2.0 GPA and 6 upper-division units in residence.

Theatre Arts - Drama, Minor

Theater Arts Minor (Drama) Requirements

- ? DRAMA 10 - The Art of Theatre **Units: 3**
 - ? DRAMA 32 - Introduction to Acting **Units: 3**
 - OR**
 - ? DRAMA 33 - Fundamentals of Acting **Units: 3**
 - ? DRAMA 34 - Theatre Crafts **Units: 3**
 - ? DRAMA 163 - Dramatic Literature **Units: 3**
 - ? DRAMA 115 - Dramatic Arts Laboratory **Units: 1-2**
 - ? Approved electives. 3 units must be upper division (See advisor)
- Units: 6**

Total: 20 Units

* Students must complete DRAMA 115 two times for 1 unit each.

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

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 Mullooly, Anthropology

Matthew 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:

- ? COMS 1 - Com Serv-Learn (3 units)
- ? LEE 144S - Service-Learning Pedagogy and Practice (3 units), and LEE 180T - Literacy and Service Learning (3 units)
- ? 3-6 units from Area I: Diverse Families and Communities

- ? 3-6 units from Area 2: Educational Issues
- ? The minor also requires a minimum 3.0 GPA and six upper-division units in residence.
- ? Courses also can fulfill General Education requirements as appropriate.

Areas of Study

Area I Diverse Families and Communities:

- ? AFRS 104W - Writing About American Inequality **Units: 3**
- ? CFS 134 - Culture and Diversity **Units: 3**
- ? ASAM 110 - Asian American Communities **Units: 3**
- ? CLAS 3 - Introduction to Chicano/Latino Studies **Units: 3**
- ? CLAS 120 - Latina/o Cultural Changes **Units: 3**
- ? SWRK 128 - Child Welfare **Units: 3**
- ? SWRK 137 - Principles in Cross-Cultural Competence **Units: 3**
- ? SOC 130WS - Contemporary Social Issues **Units: 4**
- ? SOC 144 - Social Policy Analysis **Units: 3**

Area II Educational Issues:

- ? ANTH 111 - Ethnographic Fieldwork **Units: 3**
- ? COMM 114 - Communication and Learning **Units: 3**
- ? LING 141 - TESOL/SLAT (Second Language Acquisition & Teaching) **Units: 3**
- ? LING 147 - Bilingualism **Units: 3**
- ? SOC 148 - Sociology of Education **Units: 3**
- ? SPED 120 - Introduction to Special Education **Units: 3**
- ? SPED 121 - Teaching Students with Special Needs in the Secondary General Education Setting **Units: 2**

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.

- ? Complete an Urban Civic Education Minor advising sheet with an advisor for selection of courses.
- ? Courses in a major cannot be applied toward a minor unless designated as additional requirements.
- ? A minor may be earned only at the time a student earns the first baccalaureate degree.

Viticulture, Minor

Minor in Viticulture

A Minor in Viticulture for a bachelor's degree requires 18 units of upper-division viticulture coursework including 6 units of specific

course requirements, 12 units of upper-division elective coursework and 10-16 units of preparative coursework.

Specific Course Requirements (6 units)

- ? VIT 101 - General Viticulture I **Units: 3**
- ? VIT 102 - General Viticulture II **Units: 3**

Viticulture Electives (12 units)

A minimum of 12 units (selected in consultation with a department advisor) from the following:

- ? VIT 100 - Viticulture and Enology Research Methods **Units: 3**
- ? VIT 103 - Table Grapes and Raisins: Production and Post-Harvest **Units: 3**
- ? VIT 106 - Winegrape Production **Units: 2**
- ? VIT 160 - Mechanized, Automated and Digital Viticulture **Units: 3**
- ? VIT 165 - Ampelography Grape Genetics **Units: 3**
- ? VIT 166 - Management of Grape Diseases, Disorders, and Pests **Units: 3**
- ? VIT 167 - Vineyard Ecology and Organic Production **Units: 3**
- ? VIT 168 - Vineyard Floor Vegetation Management **Units: 3**

Additional Prerequisite Coursework

These Viticulture Courses Will Require That Students Complete Additional Prerequisite Coursework That May Include The Following:

- ? VIT 15 - Introduction to Viticulture **Units: 3**
- ? MEAG 3 - Agricultural Tractors **Units: 3**
OR
- ? MEAG 20 - Agricultural Machinery and Equipment **Units: 3**
OR
- ? MEAG 120 - Advanced Farm Machinery **Units: 3**
- ? BIOL 11 - Plant Biology **Units: 3**
- ? BIOL 161 - Plant Physiology **Units: 4**
OR
- ? PLANT 100 - Aspects of Crop Productivity **Units: 3**
AND
- ? CHEM 3A - Introductory General Chemistry **Units: 4**
OR
- ? CHEM 1A - General Chemistry 1A **Units: 3**
- ? CHEM 1AL - General Chemistry Laboratory 1A **Units: 2**
- ? CHEM 1B - General Chemistry 1B **Units: 3**
AND
- ? CHEM 1BL - General Chemistry Laboratory 1B **Units: 2**

Water, Minor

Select three courses from (9 units)

- ? CE 128 - Civil Engineering Hydraulics **Units: 3**
- ? CWI 101 - Colloquium on Water **Units: 3**
- ? EES 168 - California's Earth System **Units: 3**
- ? MCJ 180 - Water and Strategic Media **Units: 3**
- ? PH 124 - Water Quality and Health **Units: 3**
- ? PLANT 71 - Agricultural Water **Units: 3**
- ? PLSI 175 - Water Politics and Policy **Units: 3**

Remaining 9 units must be from these courses

- ? BA 18 - Business and the Legal Environment **Units: 4** (with Department's permission)
- ? CE 170 - Introduction to Water Resources Engineering **Units: 3**
- ? COMM 130 - Environmental Communication **Units: 3**
- ? EES 1 - Natural Disasters and Earth Resources **Units: 4**
- ? EES 4 - Environmental Science **Units: 4**
- ? EES 117 - Hydrogeology **Units: 3**
- ? EES 217T - Topics in Hydrogeology and Environmental Geology **Units: 2-3** (with instructor's permission)
- ? PLANT 174 - Soil and Water Management **Units: 3**
- ? PLANT 175 - Irrigation Systems **Units: 3**
- ? SOC 158 - Environmental Sociology **Units: 3**

Total (18 units)

The minor requires a 2.0 GPA and 6 upper-division units in residence.

Women's, Gender, and Sexuality Studies, Minor

Women's, Gender, & Sexuality Studies Minor Requirements

The minor in women's studies requires a minimum of 20 units, including

- ? WGSS 103 - History of Feminisms **Units: 3**
- ? WGSS 143 - Feminist Theory **Units: 3**
- ? WGSS 153 - Feminist Research Methodologies **Units: 3**
- ? WGSS 175 - Seminar in Women's Studies **Units: 3**
- ? 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.

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:

- **The Certificate of Completion** is awarded for successfully completing a planned educational experience (workshop, conference, short course, or seminar) designed for specific academic objectives. Awarded certificates of completion are not currently posted on the Fresno State official transcript.
- **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 a certificate program of special study at the postbaccalaureate level and is awarded for successfully completing a structured program of 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, postbaccalaureate standing.

Certificates of Special Study

Accounting (Professional), Certificate of Special Study

The Department of Accountancy offers a Certificate of Special Study in Accounting. This certificate is designed to prepare Accountancy Option students who wish to pursue licensure as a Certified Public Accountant (CPA) to sit for the CPA exam and meet the educational requirements for CPA licensure in California.

To receive this certificate, a student must have:

- completed all requirements for the Business Administration Degree, Accountancy Option.
- totaled **150 semester units** on his or her Fresno State transcript, including transferred units.
- completed the course requirements specified below.

Course Requirements (13-15 units)

Note: Students must complete ACCT 144 and ACCT 162. If they have already completed these courses as part of their accounting electives for a bachelor's degree, then they may choose from any of the additional electives listed above.

For successful completion of the certificate, the student must receive a grade of C or better in each course except courses taken on a credit/non-credit basis. The certificate will be conferred only in conjunction with the awarding of a bachelor's degree from California State University, Fresno.

One Course in Accounting Ethics (3 units):

- ACCT 187 - Accounting Ethics and Professional Responsibilities **Units: 3**

Three Courses (9-12 units) Selected From:

Which may not be double counted for your baccalaureate degree

- ACCT 144 - Tax Accounting and Planning **Units: 4**
- ACCT 145 - Federal Income Taxation of Entities and the Federal Uniform Estate and Gift Tax **Units: 4**
- ACCT 146S - Accounting Information Systems and Controls SL **Units: 4**
- ACCT 148 - Accounting for Governmental and Nonprofit Organizations **Units: 4**
- ACCT 162 - Auditing **Units: 4**
- ACCT 165 - International Accounting **Units: 4**
- ACCT 167 - Advanced Accounting Problems **Units: 4**
- ACCT 169 - Forensic Accounting **Units: 4**
- ACCT 170A - CPA Exam Study I: Business Environment and Concepts (BEC) & Financial Accounting and Reporting (FAR) **Units: 3**
- ACCT 170B - CPA Exam Study II: Auditing (AUD) & Regulation (REG) **Units: 3**
- DS 135 - Data Analytics **Units: 3**

Advanced Cybersecurity, Certificate of Special Study

The Computer Science department offers a Certificate in Advanced Cybersecurity designed for students pursuing an interest in a broad umbrella of advanced cybersecurity topics. The certificate centers on preparing students for the cybersecurity workforce once they graduate. The skills and knowledge acquired through the composite courses will better prepare students for both social and technical aspects of cybersecurity.

Required Courses

at least 9 units, students may choose all 12 units

- CRIM 125 - Cybersecurity: Law, Policy and Behavior **Units: 3**
- CSCI 156 - Internetworking Systems and Protocols **Units: 3**
- CSCI 157 - Computer Security **Units: 3**
- CSCI 158 - Applied Biometric Security **Units: 3**
- CSCI 159 - System and Cloud Security **Units: 3**

Elective Courses

maximum of 3 units, students may choose 0 units

- ECE 150 - Cloud and Cyber Security **Units: 3**
- ECE 156 - Fundamentals of Cryptography and Computer Network Security **Units: 3**
- IS 141 - Cyber-Security **Units: 3**

Total (12 units)

Adventure-Based Programming, Certificate of Special Study

The Certificate in Adventure-Based Programming is designed for students pursuing a professional interest in experiential education and wilderness activities within settings such as youth organizations, church groups, travel and tourism, and schools and colleges. Adventure education is explored through courses using group initiative and perceived risk activities to foster personal development. The certificate centers on preparing students to facilitate ropes courses, climbing walls, mobile initiative courses, and natural resource-based pursuits such as rock climbing, backpacking, cross-country skiing, and other outdoor activities.

All coursework to be applied to this certificate must be completed with a minimum grade of C to be counted.

Required Courses (12 units)

- RA 80 - Lifelong Learning in the Natural Environment **Units: 3**
- RA 106 - Challenge Course Facilitation **Units: 3**
- RA 115 - Community Placements in Leisure Settings **Units: 1-3 ***
- RA 146 - Adventure Based Programming **Units: 3**

Elective Courses (3 units)

Select from:

- COUN 174 - Introduction to Counseling **Units: 3**
- RA 113 - Programming for Youth At-Risk **Units: 3**

- RA 121 - Community and Non-Profit Recreation Services **Units: 3**

Total (15 units)

* RA 115 and RA 146 must be taken concurrently.

Africana Historical Experience, Certificate of Special Study

The Africana Studies Program and the Department of History jointly offer an undergraduate Certificate in the African American Experience. This 12-unit program includes Africana Studies courses, cross-listed courses, and history courses to complete the certificate. The certificate is designed for concentrated study of the African American experience in the United States for students interested in developing their knowledge and analysis of African American history, race relations, literature, activism, and resistance to racial hegemony. The certificate seeks to foster multicultural competency for future teachers and to offer greater knowledge, skills, and understanding of Africana Studies as a discipline and field in academia.

Required Courses

- AFRS 144 - Race Relations **Units: 3**
- AFRS 178 - History of African Americans **Units: 3**
- HIST 178 - History of African Americans **Units: 3**
- AFRS 129 - African American Literary Classics **Units: 3**
- HIST 159 - The Reconstruction of America, 1865-1900 **Units: 3**

Total (12 units)

Agricultural Leadership, Certificate of Special Study

The Jordan College of Agricultural Sciences and Technology Certificate in Agricultural Leadership is a program designed for individuals interested in advancing both their personal and organizational leadership skills. The Certificate of Special Study in Agricultural Leadership program seeks to motivate present and future leaders to develop those essential leadership skills needed by those in the agricultural industry. The program provides participants with the opportunity to develop leadership skills in a series of in-depth, semester-length courses that are programmatic in nature. The 12-unit program consists of three required leadership knowledge and skill development courses (9 units) and three elective units consisting of a leadership practicum course and/or supervised experience. Required coursework includes topics covering personal leadership, organizational leadership and change, and professional development.

All coursework to be applied to this certificate must be completed with a minimum grade of C.

Required Courses (9 units)

- AGRI 110 - Introduction to Agricultural Leadership **Units: 3**
- AGRI 120 - Leadership in Groups and Teams **Units: 3**
OR
- AGRI 140 - Leadership and Change **Units: 3**
- AGRI 130 - Professional Development in Agriculture **Units: 3**

Elective Courses (3 units)

Select from: (1-3 units)

- AGED 120S - Leadership & Communications **Units: 2**
- AGBS 128 - Agricultural Leadership **Units: 3**
- AGRI 140 - Leadership and Change **Units: 3** (if student has completed AGRI 120)
- AGRI 150 - Agricultural Leadership Project **Units: 1-3**

Total (12 units)

Alcohol/Drug Studies, Certificate of Special Study

A certificate of special study is awarded to those students who successfully complete a minimum of 12 units of interdisciplinary academic coursework in the area of alcohol and drug abuse. Students seeking the certificate:

1. must have completed two years of college or two years of experience related to the field of alcohol/drug abuse, and
2. must be regularly enrolled in the university.

All coursework must be taken for a letter grade and completed with a grade of C or better in each of the 9 required units and the 3 units of electives. The following list includes the course requirements for the certificate:

Requirements (9 units)

- PH 110 - Drugs, Society, and Health **Units: 3**
- PH 111 - Alcohol and Alcoholism **Units: 3**
- SWRK 129 - Treatment of Chemical Dependency **Units: 3**

Elective(s) (3 units)

Select 3 units from:

- CRIM 141 - Alcohol, Drugs, and Criminality **Units: 3**

- WGSS 115 - Women, Children & Alcohol **Units: 1**
- CRIM 190 - Independent Study **Units: 1-3**
- PH 190 - Independent Study **Units: 1-3**
- SWRK 190 - Independent Study **Units: 1-3**
- WGSS 190 - Independent Study **Units: 1-3** on selected aspects of alcohol/drug abuse (1 unit)

Total (12 units)

For further information you may contact the Department of Public Health at 559.278.4014.

Applied Sociological Research Methods, Certificate of Special Study

The certificate gives students who are interested in data analysis and research methodology a more comprehensive coverage of research techniques and theories in both qualitative and quantitative areas, and it provides more in-depth training in computer applications for research.

Students who complete the requirements for this certificate will have the ability and skills needed to do social research independently once they graduate and join the workforce. They will also be better prepared to enter graduate schools with these skills and knowledge.

Requirements:

- SOC 125 - Statistics for the Social Sciences **Units: 4**
- SOC 174 - Computer Data Analysis **Units: 3**
- SOC 175 - Quantitative Research Methods in Sociology **Units: 4**
- SOC 176 - Qualitative Research Methods in Sociology **Units: 4**

Total (15 units)

The latter two courses (i.e., in "research methods") serve as the capstone experience of the Certificate in Applied Sociological Research. Each of these two courses is designed to have the student complete the course with a relatively well-developed research paper that could be presented at an undergraduate research conference. The Sociology Club applies each year for ASI Instructionally-Related Activities (IRA) funding to help sponsor sociology students who wish to present their paper at such a conference. Faculty often work with students on an "Independent Study" to assist students in preparation for this culminating experience.

Artificial Intelligence in Business, Certificate of Special Study

Given the current business ecosystem and trends, the artificial intelligence (AI) is emerging as one of the leading technologies and "must-have" for all sizes of business organizations. This certification of study not only widens one's understanding of Artificial Intelligence, but also boosts one's employment opportunity. This certification of study serves the Fresno State students, other CSU campus students and professionals.

Required Courses

- IS 51 - Programming Fundamentals **Units: 3**
- IS 130 - Information Systems **Units: 3**
- IS 160 - Artificial Intelligence in Business **Units: 3**
- IS 170 - Machine Learning Applications **Units: 3**

Elective Courses (3 units)

- DS 135 - Data Analytics **Units: 3**
- DS 140 - Prescriptive Analytics **Units: 3**
- IS 158 - Database Design and SQL **Units: 3**
- IS 182 - Advanced Network Design and Management **Units: 3**
- IS 183 - Web Development and Mobile Design **Units: 3**

Total (15 units)

Advising Notes

1. A grade of C or better is required for all certificate courses
2. Each course prerequisite must be met unless the department approves alternative satisfactory courses
3. Open to all students

Asian American Community Development and Advocate, Certificate of Special Study

The Asian American community in the southern San Joaquin Valley has experienced a long history of economic, political, and cultural marginalization. This certificate aims to provide students with the knowledge and skills to build power in the Asian American community in the southern San Joaquin Valley to address the inequities this community experiences.

Sociology/Humanics Courses

Select Two Courses From:

- SOC 183S - Philanthropy and Grant Making **Units: 3**
- SOC 184S - Grant Writing & Evaluation **Units: 3**

- SOC 186S - Governance, Administrative Principles, & Financial Literacy **Units: 3**
- SOC 187SE - Entrepreneurial Approaches to Sustainable CBOS **Units: 3**

Asian American Courses

Select Two Courses From:

- ASAM 110 - Asian American Communities **Units: 3**
- ASAM 110S - Asian American Communities Service-Learning **Units: 3**
- ASAM 121 - Asian American Marriage and Family **Units: 3**
- ASAM 140 - Hmong, Laotian and Cambodian American Experience **Units: 3**
- ASAM 161W - Asian Americans in the Caring Fields **Units: 3**

Total (12 units)

Asian American Studies Media, Pop Culture, Art and Cultural Studies, Certificate of Special Study

With this certificate future artists, museum curators, public relations/marketing, business, pop culture enthusiasts, teachers, social media, and businessman gain understanding in the scholarship, principals, and pedagogical approaches to understanding the media, popular culture, arts, and cultural studies of Asian and Asian American people:

- Equips students with an understanding of the principles and practices of Asian American mass media and popular culture
- Examines how Asian Americans have been imagined and depicted through various mediums of popular culture such as print, film, television, internet, music, etc.
- Critically looking at Asian American art and visual culture including documentary, film, television, art, paintings, architecture, and monuments
- Focuses on the cultural products of Asian Americans and the peoples of Asia

Select 4 Courses From:

- ASAM 10 - Asian American Newspapers and Mass Media **Units: 3**
- ASAM 20 - Asian Americans in Media and Popular Culture **Units: 3**
- ASAM 143 - Asian American Literature **Units: 4**
- ASAM 148 - Asian and Asian American Film and Video **Units: 3**

- ASAM 175 - Anime, Graphic Novel, K-Pop and Asian Cultural Studies **Units:** 3
- ART 109T - Topics in Studio Art **Units:** 1-3 (for 3 units)

Total (12 units)

Asian Americans in Secondary Schooling, Certificate of Special Study

With this certificate, future high school teachers gain understanding in the scholarship, principals, and pedagogical approaches to teaching the history, literature, arts, and culture of Asian American people.

Select three courses from (9 units)

- ASAM 110 - Asian American Communities **Units:** 3
- ASAM 138 - Asian American Women **Units:** 3
- ASAM 140 - Hmong, Laotian and Cambodian American Experience **Units:** 3
- ASAM 185 - Asian American Politics, Education and Theory **Units:** 3

Select one course from (3 units)

- CLAS 163 - Latinx in Education **Units:** 3
- LEE 103 - Pedagogy for Teaching Ethnic Studies **Units:** 3

Total (12 units)

Broadcast Meteorology, Certificate of Special Study

The Broadcast Meteorology Certificate is an interdisciplinary program that is administered by two departments: (1) Media, Communications, and Journalism and (2) Geography. This program consists of four required courses.

The certificate is designed for students seeking employment opportunities and for those who want to explore the potential for further study as a meteorologist. A certificate in broadcast meteorology provides students with training to better prepare weather-related stories such as on drought, floods, and severe weather. The coursework provides instruction on taking complex weather information and making it more easily understood by the general public.

Required Courses:

- MCJ 124 - Intermediate Broadcast News Writing **Units:** 3
- MCJ 128 - TV/Multimedia News Reporting and Production **Units:** 4
- GEOG 111 - Meteorology **Units:** 3
- GEOG 115 - Violent Weather/Climatic Hazards **Units:** 3 (GE IB)

Total (13 units)

Business Information Systems, Certificate of Special Study

Required Courses (9 units)

- IS 158 - Database Design and SQL **Units:** 3
- IS 166 - Information Systems, Analysis and Design **Units:** 3
- IS 181 - Computer Networks Management **Units:** 3

Elective Course (6 units)

Select from:

- IS 51 - Programming Fundamentals **Units:** 3
- IS 106 - Client-Side Software Architecture **Units:** 3
- IS 140 - Geographic Information Systems (GIS) for Business **Units:** 3
- IS 182 - Advanced Network Design and Management **Units:** 3
- IS 183 - Web Development and Mobile Design **Units:** 3
- IS 186 - Project Management **Units:** 3
- IS 190 - Independent Study **Units:** 1-3
- IS 195I - Internship **Units:** 3

Chicana/o/x and Latina/o/x Studies in Secondary Schooling, Certificate of Special Study

With this certificate, future high school teachers gain understanding in the scholarship, principals, and pedagogical approaches to teaching the history, literature, arts, and culture of Chicana/o/x and Latina/o/x people.

Required Courses:

- CLAS 114 - Mexico and the Southwest 1810-1910 **Units:** 3
- CLAS 120 - Latina/o Cultural Changes **Units:** 3

- CLAS 160 - Sex, Race, and Class in American Society **Units: 3**
- LEE 103 - Pedagogy for Teaching Ethnic Studies **Units: 3**

Total (12 units)

Communication Skills for Professionals, Certificate of Special Study

Proficiency in communication skills is essential in virtually any professional career. The Communication Program offers a structured sequence of courses leading to a certificate of special study recognizing the focused development of professional communication skills in such areas as presentational speaking, problem solving and decision making, leadership, and interpersonal communication. Upon completion of the certificate requirements, the department will award a certificate.

Certificate Prerequisites: upper-division standing and completion of the General Education basic speech requirement.

Certificate Requirements.

Check with department prior to beginning certificate requirements regarding program status.

Communication Theory: (3 units)

- COMM 100 - Theories of Human Communication **Units: 3**

Professional Writing Skills: (3-4 units)

- BA 105W - Business Communication **Units: 3**
- ENGL 164 - Advanced Writing of Creative Nonfiction **Units: 4**
- MCJ 2 - Media Writing **Units: 3**

Business and Professional Speaking: (3 units)

- COMM 170 - Business and Professional Speaking **Units: 3**

Communication Training and Development: (3 units)

- COMM 176 - Communication Consulting and Training **Units: 3**

Select 6 Units From (6 units)

- COMM 103 - Advanced Public Speaking **Units: 3**
- COMM 108 - Communication and the Small Group **Units: 3**
- COMM 162 - Interpersonal Communication **Units: 3**
- COMM 167 - Leadership in Groups and Organizations **Units: 3**
- COMM 168 - Communication in Organizations **Units: 3**
- COMM 169 - Communication and Conflict **Units: 3**

Total (18-19 units)

The new Communication Skills for Professionals Certificate Program is designed to enable students to achieve recognition of development in such areas as presentational speaking, problem solving and decision making, leadership, and interpersonal communication.

Completion in Spanish Media Production, Certificate of Special Study

Students who complete this certificate are better prepared for successful careers in today's media and communication fields through coursework in Spanish media production.

Required Courses

- MCJ 126 - Media Performance **Units: 3**
- MCJ 128 - TV/Multimedia News Reporting and Production **Units: 4**
- SPAN 117 - Advanced Conversation and Reading **Units: 3**
- SPAN 119 - Advanced Grammar **Units: 3**

Total (12 units)

Advising Notes

1. All students must pass MCJ 124 before enrolling in MCJ 128
2. In addition to satisfactory completion of MCJ 124, MCJ 128 requires permission of instructor as a prerequisite.
3. Open to all students.
4. A grade of C or better must be earned in each course to receive the certificate.

Correctional Recreation, Certificate of Special Study

This certificate of special study is intended to explore the specialty of correctional recreation. The need for trained correctional recreation employees can be found in federal and state prisons, county jails, and juvenile justice centers. The certificate is awarded to undergraduate students who complete 12 units of upper-division coursework selected to provide an overview of correctional recreation and the skills and knowledge needed to be successful in this career field. The certificate is open to all students. All coursework to be applied to this certificate must be completed with a minimum grade of C.

All coursework to be applied to this certificate must be completed with a minimum grade of C to be counted.

Required Courses (6 units)

- RA 107 - Correctional Recreation Programming **Units: 3**
- RA 109 - Correctional Recreation Administration **Units: 3**

Elective Courses (6 units)

Select 6 units from the following:

- RA 113 - Programming for Youth At-Risk **Units: 3**
- RA 115 - Community Placements in Leisure Settings **Units: 1-3**
- ART 109T - Topics in Studio Art **Units: 1-3** (Prison Art)
- ART 170 - Crafts **Units: 3**
- ART 179 - Development of Artistic Expression **Units: 3**
- CRIM 112 - Professionalism in Criminal Justice **Units: 3**
- CRIM 133 - Institutional Corrections **Units: 3**
- CRIM 134 - Criminal Justice Counseling **Units: 3**
- CRIM 138 - Punishment and Society **Units: 3**
- CRIM 174 - Ethnic and Gender Issues in Criminal Justice **Units: 3**
- SOC 143 - Deviance and Control **Units: 3**
- SOC 189S - Engaging Underrepresented Populations as Volunteers **Units: 3**
- SWRK 128 - Child Welfare **Units: 3**
- SWRK 129 - Treatment of Chemical Dependency **Units: 3**
- SWRK 136 - Cultural Diversity and Oppression **Units: 3**

Total (12 units)

Creative Writing, Certificate of Special Study

The Certificate of Special Study in Creative Writing is program intended for those persons who wish to study the art of literary

writing in addition to earning a degree in English or another area, or without matriculating for a degree. Admission to the program requires the consent of both the creative writing program coordinator and the chair of the department. The certificate program will comprise a minimum of 12 units of upper-division work.

Required Courses:

Students may take 12 units composed of two courses in one genre (courses may be repeated one time) and one in either of the other genres; or students may take one course in each of the three genres. Recommended: at least one course at the upper-division level in an area of contemporary literature. Note: Prerequisites for the certificate may be waived only with permission of the advisor and specific course instructor.

- ENGL 161 - Advanced Writing of Poetry **Units: 4**
- ENGL 163 - Advanced Writing of Fiction **Units: 4**
- ENGL 164 - Advanced Writing of Creative Nonfiction **Units: 4**

Cross-Cultural Competency, Certificate of Special Study

The College of Health and Human Services and the Department of Social Work Education jointly offer a certificate of special study in cultural competency. Twelve units of selective study are required that include two core courses and two related interdisciplinary electives. The certificate is designed to prepare students for professional practice in culturally diverse settings in the fields of business, education, health care, and human service. All coursework must be taken for a letter grade and completed with a grade of C or better in each of the six required units and six units of electives.

To apply: Complete the corresponding application and turn it into our office along with a copy of your unofficial transcripts.

Cross-Cultural Competency Application

Required Courses (6 units)

- SWRK 136 - Cultural Diversity and Oppression **Units: 3**
- SWRK 137 - Principles in Cross-Cultural Competence **Units: 3**

Elective Courses (6 units)

Take two 3-unit courses, each from the different categories below.

Language and Culture:

- ANTH 118 - Sex, Gender, Biology and Culture **Units: 3**

- ANTH 123 - Peoples and Cultures of Southeast Asia **Units: 3**
- ANTH 124 - Peoples and Cultures of East Asia **Units: 3**
- CLAS 120 - Latina/o Cultural Changes **Units: 3**
- CSDS 139 - Deaf Culture **Units: 3**
- SPAN 125 - Hispanic Cultural Productions (taught in Spanish) **Units: 3**
- GERON 111 - Heritage and Aging **Units: 3**
- GERON 161 - Multiculture/Aging **Units: 3**
- HUM 130 - Latin American Cultures and Traditions **Units: 3**
- LING 120 - Japanese Language and Culture **Units: 3**
- LING 130 - Language and Gender **Units: 3**
- LING 147 - Bilingualism **Units: 3**
- PHIL 135 - Asian Religious Traditions **Units: 3**
- PHIL 138 - Chinese Thought **Units: 3**
- COMM 120 - Gender Communication **Units: 3**
- COMM 164 - Intercultural Communication **Units: 3**

Health/Mental Health:

- ANTH 117 - Anthropology of Health, Illness, and Healing **Units: 3**
- PH 100 - Community Health **Units: 3**
- PSYCH 169 - Psychological Aspects of Physical Disability **Units: 3**
- RA 125 - Diversity and Inclusive Practices in Recreation Therapy and Recreation **Units: 3**

Ethnicity:

- AFRS 135 - The African American Community **Units: 3**
- AFRS 142 - Hip Hop Culture **Units: 3**
- AFRS 144 - Race Relations **Units: 3**
- AFRS 148 - Issues in the African American Community **Units: 3**
- ANTH 115 - Contemporary Global Culture **Units: 3**
- ANTH 116W - Anthropology of Religion **Units: 3**
- ASAM 110 - Asian American Communities **Units: 3**
- ASAM 138 - Asian American Women **Units: 3**
- ASAM 140 - Hmong, Laotian and Cambodian American Experience **Units: 3**
- CLAS 128 - Latinx Politics **Units: 3**
- CLAS 141 - The Chicano Family **Units: 3**
- CRIM 174 - Ethnic and Gender Issues in Criminal Justice **Units: 3**
- AFRS 104W - Writing About American Inequality **Units: 3**
- SOC 111 - Sociology of Race and Ethnicity **Units: 3**

Women:

- AFRS 137 - African American Women **Units: 3**
- CLAS 162 - Chicana Women in a Changing Society **Units: 3**
- PH 127 - Female Sexuality **Units: 3**
- PH 130 - Women's Health **Units: 3**
- HIST 101 - Women in History **Units: 3**
- SOC 132 - Women and Work **Units: 3**
- WGSS 11 - Introduction to LGBTQ+ Studies **Units: 3**
- WGSS 120 - Women of Color in the United States **Units: 3**
- WGSS 135 - Women In Cross-Cultural Perspective **Units: 3**

Total (12 units)

For more information, call the Department of Social Work Education at 559.278.3992.

Data Analytics, Certificate of Special Study

Required Courses (9 units)

- DS 133 - Business Intelligence with Advanced Spreadsheet **Units: 3**
- DS 135 - Data Analytics **Units: 3**
- DS 137 - Machine Learning **Units: 3**

Elective Courses (6 units)

Select any two (2) of these or other courses approved by the Chair and the Dean):

- ACCT 146S - Accounting Information Systems and Controls SL **Units: 4**
- ECON 123 - Introduction to Econometrics **Units: 3**
- DS 190 - Independent Study **Units: 1-3**
- DS 195I - Internship **Units: 3**
- FIN 123 - Business Forecasting **Units: 3**
- IS 140 - Geographic Information Systems (GIS) for Business **Units: 3**
- IS 153 - Enterprise Resource Planning Systems **Units: 3**
- IS 186 - Project Management **Units: 3**

Total (15 units)

Dietetics, Certificate of Special Study

Certificate in Dietetics. The Certificate in Dietetics is designed to prepare students to pursue a career as a registered dietitian. To qualify for the national examination to become a registered dietitian, students must earn the following: (1) bachelor's degree from a U.S. regionally accredited university or college, or international equivalent, (2) verification statement from a Commission on Accreditation Council for Education and Dietetics Education (CADE) accredited didactic program in dietetics (DPD), and (3) verification statement from a ACEND accredited dietetic internship (DI).

The Dietetics and Food Administration Option when taken with the Certificate in Dietetics is accredited by the ACEND as a DPD. Students completing both programs will receive a verification statement and will be eligible to apply for an accredited dietetic internship.

Currently the supply of positions in dietetic internship programs is less than the demand by DPD graduates. The DI selection process is highly competitive and favors students who have demonstrated a well- rounded preparation as evidenced by GPA, work experience, volunteer experience, leadership, and career potential. Not all students applying to a DI will be placed.

Admission requirements. Candidates for the Certificate in Dietetics will be evaluated using the following criteria: grade point average of 3.0 or higher in all attempted college coursework, statement of professional goals, and a minimum of 240 hours of documented work or volunteer experience in dietetics. Students will be required to apply to the Certificate in Dietetic option during the junior spring semester. Upon acceptance students will be eligible to complete the Certificate in Dietetics option and be eligible for a verification statement.

Program Requirements:

- FSM 133 - Quantity Food Production **Units: 3**
- FSM 134 - Cost Analysis in Food Systems Management **Units: 3**
- NUTR 156 - Nutrition Assessment **Units: 3**
- NUTR 157 - Medical Nutritional Therapy **Units: 3**
- NUTR 175 - Senior Dietetics Seminar **Units: 1**

Total units (13 units)

Emergency Management, Certificate of Special Study

The Emergency Management Certificate is a comprehensive course of study designed to give students foundation in the knowledge, skills and abilities to perform emergency management duties in the public or private sector. This 21 unit certificate will be offered in an online format.

Program Requirements:

- PH 126 - Hazardous Materials Management **Units: 3**
- PH 169 - Emergency & Disaster Management: Planning, Response, Recovery **Units: 3**
- PH 171 - Exercise Design Evaluation **Units: 3**
- PH 172 - Emergency Management Support Function **Units: 3**
- PH 173 - Emergency Management Planning **Units: 3**
- PH 174 - Incident Management Systems **Units: 3**
- PH 176 - Critical Infrastructure Threat and Risk Assessment **Units: 3**

Total units (21 units)

Enology, Certificate of Special Study

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. Before enrolling in this certificate program, students must meet with an advisor 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 33 units in enology. If students have completed courses that qualify as part of the 33 units in enology, substitutions shall be made in consultation with an advisor. The Certificate of Special Study in Enology has an additional 11 unit elective requirement, making the total for the certificate program equal to 44 units. Additional requirements may be satisfied from previous completed coursework. Each student will meet with the certificate advisor to determine whether these requirements have been met by proper coursework or extensive experience in the field.

Required Qualifications:

1. Normally, a bachelor's degree from an accredited institution in the sciences or a related field

Preferred Qualifications:

1. One or more years of experience in the wine industry
 2. Strong background in chemistry, microbiology, or food science
 3. 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.

Required Courses (33 units)

- ENOL 15 - Introduction to Enology **Units: 3**

- ENOL 45 - Wine Evaluation Techniques **Units: 3**
- ENOL 105 - Advanced Sensory Evaluation of Wines **Units: 3**
- ENOL 110 - Grape and Wine Chemistry **Units: 3**
- ENOL 115 - Analytical Methods for Wine I **Units: 4**
- ENOL 125 - Wine Microbiology **Units: 4**
- ENOL 151 - Winery Equipment **Units: 2**
- ENOL 163 - Fermentation **Units: 3**
- ENOL 164 - Wine Analysis and Production **Units: 4**
- ENOL 166 - Cellar Operations **Units: 3**
- ENOL 175 - Winery Management **Units: 3**
- ENOL 199 - Undergraduate Seminar **Units: 1**

Electives

Select 11 units in consultation with faculty advisor

- BIOL 161 - Plant Physiology **Units: 4**
- ENOL 140 - Regulations: Wine and Brandy **Units: 2**
- ENOL 170E - Wine Business **Units: 3**
- ENOL 173 - Wine Marketing **Units: 3**
- ENOL 175 - Winery Management **Units: 3**
- ENOL 190 - Independent Study **Units: 1-3**
- PLANT 172 - Soils **Units: 3**
- PLANT 172L - Soils Lab **Units: 1**
- VIT 101 - General Viticulture I **Units: 3**
- VIT 102 - General Viticulture II **Units: 3**
- VIT 106 - Winegrape Production **Units: 2**

Entrepreneurship, Certificate of Special Study

Required Courses (12 units)

- ENTR 81E - Introduction to Entrepreneurship **Units: 3**
- ENTR 151E - Opportunity Assessment **Units: 3**
- ENTR 153E - Business Plan Model **Units: 3**
- MGT 127 - Contemporary Leadership **Units: 3**

Elective Courses (6 units)

- BA 105W - Business Communication **Units: 3**
- ENTR 155E - Managing the New Venture **Units: 3**
- ENTR 157E - New Venture Laboratory **Units: 3**
- ENTR 161E - Urban Entrepreneurship **Units: 3**
- ENTR 163E - Social Entrepreneurship **Units: 3**
- ENTR 165E - Corporate Entrepreneurship **Units: 3**
- ENTR 167E - Franchising **Units: 3**
- ENTR 169E - Family Business Management **Units: 3**
- FIN 131E - Entrepreneurial Finance **Units: 3**

- or courses approved by the certificate program coordinator or the department chair

Total (18 units)

Environmental Planning, Certificate of Special Study

This certificate is to train students to understand environmental issues and address environmental problems, with a body of knowledge that integrates physical environment and human societies. It will also prepare students to investigate, and address, environmental problems in a systematic manner, in conjunction with their particular field of study.

Required Courses (9 units)

- GEOG 115 - Violent Weather/Climatic Hazards **Units: 3**
- OR
- GEOG 128 - Environmental Pollution **Units: 3**
- CRP 135 - Planning Law & Administration **Units: 3**
- GEOG 129 - Environmental Impact Assessment **Units: 3**
- OR
- GEOG 132 - United States Environmental Law **Units: 3**
- CRP 125 - Environmental Planning **Units: 3**

Electives (3 units)

Electives (3 units) Choose any one of the following courses:

- AGBS 155 - Environmental and Natural Resource Policy **Units: 3**
- ANTH 128 - Environmental Anthropology **Units: 3**
- CM 177 - Sustainable Construction **Units: 3**
- CRP 135 - Planning Law & Administration **Units: 3**
- ECON 117 - Environmental Economics **Units: 3**
- EES 108 - Soil and Water Sciences **Units: 4**
- GEOG 115 - Violent Weather/Climatic Hazards **Units: 3**
- GEOG 127 - Global Environmental Change **Units: 3**
- GEOG 128 - Environmental Pollution **Units: 3**
- GEOG 129 - Environmental Impact Assessment **Units: 3**
- GEOG 132 - United States Environmental Law **Units: 3**
- GEOG 133 - Environmental Policy Management **Units: 3**
- GEOG 135 - Environmental Protection **Units: 3**
- GEOG 141 - GIS I: Data Display and Manipulation **Units: 3**

- NSCI 115 - Environmental Earth and Life Science **Units: 3**
- PH 161 - Environment and Human Health **Units: 3**
- PLANT 105 - Food, Society, and Environment **Units: 3**
- PLSI 157 - Environmental Politics **Units: 3**
- PLSI 175 - Water Politics and Policy **Units: 3**
- PSCI 168 - Energy and the Environment **Units: 3**
- SOC 158 - Environmental Sociology **Units: 3**

Total (12 units)

Fashion Merchandising, Certificate of Special Study

Requirements (6 units)

- FM 21 - Fashion Merchandising Fundamentals **Units: 3**
- FM 130E - Fashion Study Tours **Units: 3**

Electives (9 units)

Select from:

- FM 126 - History of Costume, from Ancient Sumerians to 1900 **Units: 3**
- FM 127 - Fashion Merchandising **Units: 3**
- FM 128 - Visual Merchandising **Units: 3**
- FM 133 - Textile/Apparel Economics **Units: 3**

Total (15 units)

Filmmaking, Certificate of Special Study

The Certificate in Filmmaking offers students hands-on training in filmmaking, integrating practical and theoretical skills. This certificate is a 15-unit program and includes coursework in both narrative and documentary film projects, screenwriting, and film theory.

Required: (12 units)

- MCJ 60 - Film Theory **Units: 3**
- MCJ 114W - Screenwriting **Units: 3**
- MCJ 116 - Documentary Film and Video Production **Units: 3**
- MCJ 117 - Narrative Filmmaking **Units: 3**

Choose one: (3 units)

- MCJ 111 - Post-Production **Units: 3**
- MCJ 119E - Creative Media Production and Entrepreneurship **Units: 3**

Total (15 units)

Finance, Certificate of Special Study

Before entering either of the programs, students will need to demonstrate that they have foundation knowledge of business practices and possess good writing skills. Prior approval of the certificate program coordinator or the department chair is required. Students need to meet one of the following criteria:

1. be currently admitted to California State University, Fresno,
2. have a bachelor's degree in any field from an accredited institution, or
3. have an Associate of Arts degree from a two-year accredited college and a minimum of two years of business experience.

For successful completion of a certificate, the student must receive a grade of C or better in each course.

Certificate Requirements (10 units)

- FIN 120 - Principles of Finance **Units: 4**
- FIN 128 - Investments **Units: 3**
- FIN 178 - International Finance **Units: 3**

Elective Courses: (9-10 units)

Select three courses from the following:

- FIN 121 - Intermediate Financial Management **Units: 3**
- FIN 122 - Financial Institutions and Financial Markets **Units: 3**
- FIN 123 - Business Forecasting **Units: 3**
- FIN 129A - Student-Managed Investment Funds I **Units: 3**
- FIN 131E - Entrepreneurial Finance **Units: 3**
- FIN 138 - Derivatives **Units: 3**
- FIN 139 - Financial Policy and Strategy **Units: 3**

Total (19-20 units)

Geographic Information Systems (GIS), Certificate of Special Study

The Geography Department offers a certificate of special study in Geographic Information Systems. This 12-unit program consists of four required courses. The certificate is designed for students seeking employment opportunities, those considering postbaccalaureate studies, and professionals who wish to further their careers in GIS.

Required Upper-Division Courses (12 units)

- GEOG 141 - GIS I: Data Display and Manipulation **Units: 3**
- GEOG 142 - GIS II: Data Creation and Project Implementation **Units: 3**
- GEOG 143 - GIS III: Spatial Analysis and Modeling **Units: 3**
- GEOG 152 - Remote Sensing I: Intro to Remote Sensing of Environment **Units: 3**

Total (12 units)

Advising Notes

1. Open to all students and professionals
2. A grade of C or better must be earned in each course to receive the certificate.

Gerontology, Certificate of Special Study

The certificate will be awarded to students who complete a program of study consisting of 21 units of courses in gerontology. The following list includes the recommended content areas in the field of aging to be covered: an introductory course in gerontology, social policy, multicultural aging, physiological aging, psychological aging, sociological issues, internship, and social services. Coursework must be completed with a C or better.

Required (9 units)

- GERON 100 - Images of Aging in Contemporary Society **Units: 3**
- GERON 140 - Aging in America: Politics & Change **Units: 3**
- GERON 161 - Multiculture/Aging **Units: 3**

Electives*

Select 12 units from:

- GERON 103 - Psychology of Aging **Units: 3**
- GERON 111 - Heritage and Aging **Units: 3**
- GERON 115 - Health Issues of Aging **Units: 3**

- GERON 125 - Social Services for the Aging **Units: 3**
- GERON 132 - Alzheimer's Disease **Units: 1**
- GERON 134 - Mental Health and Caregiving **Units: 3**
- GERON 137 - Community Service in Gerontology **Units: 1-3**
- GERON 139 - Death and Dying **Units: 3**
- GERON 148 - Biophysical Aspects of Aging **Units: 3**
- GERON 180T - Topics in Gerontology **Units: 1-3**
- GERON 185I - Internship in Gerontology **Units: 1-6**
- GERON 190 - Independent Study **Units: 1-3**

Total (21 units)

Global Awareness, Certificate

The Global Awareness Certificate is a Certificate of Special Study awarded for successfully completing at least 12 semester units as described below. It can be tailored to a particular area of study by programs, departments, or colleges/schools and certifies that a student has achieved a set of outcomes denoting a level of competency in the international arena.

The following broad parameters apply to the Global Awareness Certificate:

1. Must be a minimum of 12 units.
2. Must include completion of Social Sciences 16 - Introduction to Global Studies (3 units). Please note, this course is only offered during the fall semester.
3. Must include the equivalent of at least one year of foreign language (two years of high school foreign language).
4. Must include at least one study abroad experience.
5. Must include at least one course (3 unit minimum) in the student's major (or closely related field) dealing with international aspects of the major. These courses are identified by individual departments and colleges.

Courses That Fulfill Requirement #5 are

- AGBS 140 - International Agricultural Economics **Units: 3**
- CLAS 171 - Multicultural Brazil **Units: 3**
- COMM 171 - Communication and Planning Change in the Social System **Units: 3**
- CRIM 109 - Comparative Systems of Criminal Justice **Units: 3**
- FM 133 - Textile/Apparel Economics **Units: 3**
- NUTR 170 - Food and Culture **Units: 3**
- GEOG 165 - Medical Geography **Units: 3**
- GEOG 166 - Geography of World Economy **Units: 3**
- KINES 111 - The Olympic Games **Units: 3**
- Liberal Studies (any 3-unit upper -division course from the study abroad experience)
- LING 115 - Language, Culture, and Society **Units: 3**
- LING 120 - Japanese Language and Culture **Units: 3**

- LING 151 - Languages of the World **Units: 3**
- MKTG 115 - Global Logistics and Supply Chain Strategies **Units: 4**
- MKTG 140 - Global Marketing **Units: 4**
- MATH 143 - History of Mathematics **Units: 4**
- FREN 109 - French Literature, Culture, and Society from the Middle Ages to Today **Units: 3**
- FREN 149 - Voices of Africa **Units: 3**
- HUM 108 - Humanities in Classical Athens **Units: 3**
- HUM 110 - Humanities in Republican and Imperial Rome **Units: 3**
- SPAN 125 - Hispanic Cultural Productions (taught in Spanish) **Units: 3**
- SPAN 129 - Mexican Culture (taught in Spanish) **Units: 3**
- SPAN 148T - Major Themes in Hispanic Literature **Units: 3**
- MUSIC 170A - Music of the Americas: Latin America **Units: 3**
- MUSIC 171 - Introduction to the World's Music **Units: 3**
- NURS 141 - Concepts of Community Health Nursing **Units: 3**
- NURS 141LS - Practicum: Concepts of Community Health Nursing **Units: 2**
- PHIL 139 - Islam **Units: 3**
- PHIL 158 - Judaism **Units: 3**
- PLSI 121 - American Foreign Affairs **Units: 3**
- PLSI 122 - Politics of Foreign Aid **Units: 3**
- PLSI 125 - Russian Foreign Policy **Units: 3**
- PLSI 126 - International Law and Organization **Units: 3**
- PLSI 128T - Topics in International Relations **Units: 1-4**
- PLSI 141 - Russian Politics **Units: 3**
- PLSI 144T - Area Studies in Africa and Middle East **Units: 1-4**
- PLSI 145T - Area Studies in Asia **Units: 1-4**
- PLSI 147 - East Asian Politics **Units: 3**
- PLSI 148 - Latin American Politics **Units: 3**
- RA 130 - International Tourism: Multicultural Issues and Impacts **Units: 3**
- WGSS 136T - Topics in International Women's Studies **Units: 3**

Any Two of

- IT 106 - Energy Conversion and Utilization **Units: 3**
- IT 137 - International Quality Standards **Units: 3**
- IT 184 - Advanced Manufacturing Technology **Units: 3**

Global Literacies in Popular Culture, Certificate of Special Study

This certificate addresses a growing need for popular culture literacy, given the developing importance of social media and the increasing presence of forms of popular culture in social institutions, including business and academe. Students will have the opportunity to develop a multicultural understanding of various forms of pop culture, a skill set for analyzing pop culture and its social impacts, and critiquing the efficacy of pop culture artifacts with respect to changing or maintaining cultural norms. This certificate will be of benefit to students pursuing careers in business, social media, advertising, marketing, film and other forms of media.

Required Courses

- ASAM 175 - Anime, Graphic Novel, K-Pop and Asian Cultural Studies **Units: 3**
- AFRS 142 - Hip Hop Culture **Units: 3**
- HIST 154 - Jewish American Popular Culture **Units: 3**
- MCJ 163 - Media and Pop Culture **Units: 3**
- SOC 142 - Sociology of Popular Culture **Units: 3**

Total (15 units)

Human Resource Management, Certificate of Special Study

Required Courses (12 units)

- HRM 150 - Administration of Personnel **Units: 3**
- HRM 153 - The Staffing of Organizations **Units: 3**
- HRM 154 - Compensation Systems and Performance Management **Units: 3**
- HRM 157 - Legal Aspects of Human Resource Management **Units: 3**

Elective Courses (3 units)

- HRM 152 - Labor Relations and Collective Bargaining **Units: 3**
- HRM 159 - Seminar in Human Resource Management **Units: 3**
- or courses approved by the certificate program coordinator or the department chair

Total (15 units)

Humanics Administration and Leadership for Community Benefit Organizations, Certificate of Special Study

Housed within the Sociology Department, Humanics@FresnoState transforms lives and perspectives on leadership and philanthropy and engenders exceptional leaders, enhanced organizations, and enriched communities in the following ways:

- Investing thousands of dollars in community benefit organizations (CBOs) serving the region;
- Partnering with CBOs to strengthen capacity and foster sustainability; and
- Preparing leaders for service to humanity through CBOs as administrators and executives, board members and volunteers, and program staff.

The Humanics Program builds on and enhances students' chosen major course of study, offering an applied, project-based curriculum (based on the R.E.A.L. ® model) which leads to a certificate in administration and leadership for community benefit organizations. The certificate is open to all students of any major, and provides our graduates with exciting professional opportunities.

Requirements for the Certificate

The interdisciplinary certificate in administration and leadership for community benefit organizations requires at least 18 semester units, including 300 hours of supervised internship experience with a CBO, involvement in the Humanics AFP Collegiate Chapter, and participation in a professional development conference. Courses/Internships may be used to fulfill requirements of other degree and certificate programs and are open to undergraduate and graduate students of all majors and programs as well as to community individuals through Open University.

Required Coursework:

- SOC 144 - Social Policy Analysis **Units: 3**
- SOC 183S - Philanthropy and Grant Making **Units: 3**
- SOC 184S - Grant Writing & Evaluation **Units: 3**
- SOC 186S - Governance, Administrative Principles, & Financial Literacy **Units: 3**
- SOC 187SE - Entrepreneurial Approaches to Sustainable CBOS **Units: 3**
- MGT 133S - Managing Nonprofit and Socially Responsible, Sustainable Organizations **Units: 3**
- OR
- ENTR 163E - Social Entrepreneurship **Units: 3**
- SOC 185I - Field Experience in Sociology **Units: 1-6**
- or other approved internship course **Units: 3**

Total (18 units)

Jewish Studies, Certificate of Special Study

Jewish Studies Certificate Program Coordinator:

Jill Fields, Professor of History

The interdisciplinary Jewish Studies Certificate Program provides students with opportunities to explore the long history, rich culture, diverse communities, and distinctive religious practices of this global minority group from ancient times to the present. Students enrolled in certificate courses will gain understanding of the many dimensions of Jewish heritage and also of issues of contemporary concern for Jews of the diaspora, including the United States, and in Israel.

Candidates for the Jewish Studies Certificate must complete a minimum of 12 units of approved coursework with a grade of C or better in at least two areas of Jewish history, religion, culture, politics, and/or Hebrew language. Students who complete a minimum of 15 units of approved coursework with a grade of B or better will earn a Certificate in Jewish Studies with Honors.

Students of all ethnic and religious backgrounds, including non-matriculating community members who are permitted to enroll in classes at the university, are welcome to enroll in the Jewish Studies Program to earn a certificate. Certificate coursework may include a supervised internship undertaken for credit that will fulfill one certificate course requirement. Courses taken to fulfill the requirements of the Jewish Studies Certificate may be used to fulfill requirements of other degree or certificate programs. The certificate will only be issued after students consult with a co-director of the Jewish Studies Program to ensure that courses taken meet certificate requirements. An enrollment form is available on the Jewish Studies Program website.

Course Offerings May Include, but are not limited to, the Following:

- COMS 101I - Community Service Internship **Units: 1-3** or an approved internship course in any major (of 3 units or more subject to approval by a Jewish Studies Program director),
- ENGL 112 - World Literature: Ancient **Units: 4**
- ENGL 116 - Literature of the Old Testament **Units: 4**
- ENGL 179 - Multi-Ethnic Literature and Writing **Units: 4**
- HIST 103 - History of Early Christianity **Units: 3**
- HIST 107 - Modern Middle East **Units: 3**
- HIST 114 - Gender, Sexuality and the Family in the Middle East **Units: 3**
- HIST 115 - Ancient Israel **Units: 3**
- HIST 140 - Holocaust **Units: 3**
- HIST 146 - Gendered Perspectives on U.S. Immigration **Units: 3**
- HIST 186 - American Immigration and Ethnic History **Units: 3**
- HUM 118 - Folklore in Contemporary Life **Units: 3**
- HUM 120 - Genocide, Memory and Media **Units: 3**
- JS 100W - Writing and the Jewish Experience **Units: 3**

- JS 118T - Topics in Jewish History and Culture **Units: 1-3**
- JS 154 - Jewish American Popular Culture **Units: 3**
- JS 181 - Anti-Semitism from the Medieval to Modern World **Units: 3**
- PAX 100 - Peace and Conflict Studies **Units: 3**
- PHIL 131 - Comparative Religion **Units: 3**
- PHIL 134 - Literature of the Old Testament **Units: 4**
- PHIL 158 - Judaism **Units: 3**
- SOC 111 - Sociology of Race and Ethnicity **Units: 3**
- SOC 121 - Sociology of Terrorism and Genocide **Units: 3**
- SOC 169 - Sociology of Religion **Units: 3**
- "T" (TOPICS) CLASSES: Special topics classes with a Jewish Studies focus offered in English, history, philosophy, political science, or any other relevant discipline.

Total (12 units)

Legal Studies, Certificate of Special Study

A special Certificate in Legal Studies is offered to undergraduate students interested in pursuing careers in law. The program is open to students in all majors. With the approval of the social science advisor, courses may be selected that provide an appropriate foundation for the study of law.

Program

Section 1

Choose one course:

- PLSI 170 - Constitutional Law, the Federal Structure **Units: 3**
- PLSI 171 - Constitutional Law, Civil Liberties, and Civil Rights **Units: 3**

Section 2

Choose one course:

- PLSI 154 - Congressional Politics **Units: 3**
- PLSI 160 - State and Local Governments **Units: 3**
- PLSI 170 - Constitutional Law, the Federal Structure **Units: 3**
- OR
- PLSI 171 - Constitutional Law, Civil Liberties, and Civil Rights **Units: 3** (whichever one was not taken in section 1)
- PLSI 172 - Moot Court: Appellate Court Proceedings and Advocacy **Units: 3**

OR

- PLSI 173 - Moot Court: Legal Arguments and Courtroom Tactics **Units: 3**
- PLSI 174 - Politics and the Court **Units: 3**

Section 3

Choose two courses:

- CRIM 117 - Criminal Legal Process **Units: 3**
- CRIM 127 - Evidence **Units: 3**
- CRIM 118 - Courts and Legal Procedure **Units: 3**
- CRIM 119 - Legal Aspects of Corrections **Units: 3**
- CRIM 142 - Basic Courtroom Procedure **Units: 3**
- CRIM 143 - Legal Evidence **Units: 3**
- CRIM 144 - Trial Tactics **Units: 3**

OR

- CRIM 145 - Effective Expert Witnesses **Units: 3**
- CRIM 177 - Legal Policy in Victim Services **Units: 3**
- CRIM 126 - Women and Violence: Public Policy and the Law **Units: 3**
- WGSS 126 - Women and Violence: Public Policy and the Law **Units: 3**

Total (12 units)

A detailed description of the prelaw program is available from the advisors in the Department of Criminology and the Department of Political Science. Students should be aware that without advisement, successful completion of this program is impossible.

The certificate is jointly offered by the Department of Political Science and the Department of Criminology. Refer to the department pages for contact information.

Note: Students must achieve a minimum GPA of 2.5 in all certificate courses.

Linguistics - TESOL / SLAT (Second Language Acquisition and Teaching), Certificate of Special Study

The Certificate of Special Study in Linguistics - TESOL / SLAT (Second Language Acquisition and Teaching) is intended for local and international students who wish to specialize in English as a Second Language methods.

Certificate Requirements

- LING 100 - General Linguistics **Units: 3**
- LING 141 - TESOL/SLAT (Second Language Acquisition & Teaching) **Units: 3**

- LING 171I - Practicum in TESOL/SLAT **Units: 3**
- LING 155 - Computer Assisted Language Learning **Units: 3**

Advising Note:

We strongly recommend that international students also take LING 6 or LING 110W prior to or concurrently with LING 141.

Logistics and Supply Chain Strategies, Certificate of Special Study

Before entering a program, students will need to demonstrate that they have foundation knowledge of business practices and possess good writing skills. Prior approval of the certificate program coordinator or the department chair is required. Students need to meet one of the following criteria:

1. be currently admitted to California State University, Fresno, or
2. have a bachelor's degree in any field from an accredited institution, or
3. have an associate of arts from a two-year accredited college and a minimum of two years of business experience.

Required Courses:

- MKTG 100S - Marketing Concepts **Units: 4**
- MKTG 114 - Principles of Logistics and Supply Chain **Units: 4**
- MKTG 115 - Global Logistics and Supply Chain Strategies **Units: 4**
- MKTG 126 - Purchasing and Materials Management **Units: 4**
- MKTG 195I - Internship **Units: 3**

Total (19 units)

Note: a grade of C or better in each course is required.

Marketing, Certificate of Special Study

Before entering a program, students will need to demonstrate that they have foundation knowledge of business practices and possess good writing skills. Prior approval of the certificate program coordinator or the department chair is required. Students need to meet one of the following criteria:

1. be currently admitted to California State University, Fresno, or

2. have a bachelor's degree in any field from an accredited institution, or
3. have an associate of arts from a two-year accredited college and a minimum of two years of business experience.

Take the Following Courses: (8 units)

- MKTG 100S - Marketing Concepts **Units: 4**
- MKTG 160 - Professional Selling & Sales Force Management **Units: 4**

Select 7-8 Units from the Following: (7-8 units)

- MKTG 101 - Marketing Research **Units: 4**
- MKTG 110 - Consumer Behavior **Units: 4**
- MKTG 114 - Principles of Logistics and Supply Chain **Units: 4**
- MKTG 130 - Retail Managing and Merchandising **Units: 4**
- MKTG 132 - Promotion Mix: Principles and Practices **Units: 4**
- MKTG 134 - Entrepreneurial Marketing **Units: 4**
- MKTG 140 - Global Marketing **Units: 4**
- MKTG 144 - Services Marketing **Units: 3**
- MKTG 150 - Sports Marketing **Units: 3**
- MKTG 153 - E-Marketing Technologies and Social Media **Units: 4**
- MKTG 188 - Strategic Planning in Marketing **Units: 4**
- or approved MKTG 189T

Total (15-16 units)

Note: a grade of C or better in each course is required.

Mass Communication and Journalism, Certificate of Special Study

Requirement for Certificate Programs

Before entering a program, students will need to demonstrate that they have foundation knowledge of business practices and possess good writing skills. Prior approval of the certificate program coordinator or the department chair is required. Students need to meet one of the following criteria:

1. be currently admitted to California State University, Fresno, or

2. have a bachelor's degree in any field from an accredited institution, or
3. have an associate of arts from a two-year accredited college and a minimum of two years of business experience.

Note: a grade of C or better in each course is required.

(For Marketing Option students only)

Take the Following Courses:

- MCJ 40 - Introduction to Advertising and Public Relations **Units: 3**
- MCJ 144 - Writing to Influence **Units: 3**
- MCJ 146 - Media Planning **Units: 3**
- MCJ 149 - Advertising and Public Relations Campaigns **Units: 3**
- MCJ 157 - Public Relations and Advertising Agency **Units: 3**
- Units may not be applied toward the Marketing Option.

Total (15 units)

Network Administration, Certificate of Special Study

Students must have a background in IS and a strong interest in computer network environment.

Required Courses (6 units)

- IS 181 - Computer Networks Management **Units: 3**
- IS 182 - Advanced Network Design and Management **Units: 3**

Elective Courses (at least upper-division 6 units)

Select from:

- IS 51 - Programming Fundamentals **Units: 3**
- IS 106 - Client-Side Software Architecture **Units: 3**
- IS 140 - Geographic Information Systems (GIS) for Business **Units: 3**
- IS 166 - Information Systems, Analysis and Design **Units: 3**
- IS 183 - Web Development and Mobile Design **Units: 3**
- IS 186 - Project Management **Units: 3**
- IS 190 - Independent Study **Units: 1-3**

Organizational Management, Certificate of Special Study

Required Courses (12 units)

- MGT 110 - Administration and Organizational Behavior **Units: 6**
- MGT 127 - Contemporary Leadership **Units: 3**
- MGT 133S - Managing Nonprofit and Socially Responsible, Sustainable Organizations **Units: 3**

Elective Courses (3-4 units)

- ENTR 81E - Introduction to Entrepreneurship **Units: 3**
- HRM 150 - Administration of Personnel **Units: 3**
- MGT 124 - Production/Operations Management **Units: 4**
- MGT 158 - Project Management **Units: 3**
- MGT 133S - Managing Nonprofit and Socially Responsible, Sustainable Organizations **Units: 3**
- MGT 180 - Seminar in Management Theory and Organization Design **Units: 3**
- MGT 189T - Topics in Management **Units: 1-3**
- or courses approved by the certificate program coordinator or the department chair

Total (15-16 units)

Advising Note: Business majors will need to substitute two elective courses for MGT 110 requirement.

Peacebuilding and Mediation, Certificate of Special Study

12 units: Peacebuilding, Mediation, Internship, and Elective Open to all majors. Contact the coordinator in the Department of Philosophy at 559.278.6484 for details

Racial Understanding, Certificate of Special Study

The Africana Program and the Department of Social Work Education jointly offer the Certificate of Special Study in Racial Understanding. This 12-unit program consists of three required courses and one related interdisciplinary elective. The certificate is designed to prepare students and practicing professionals to develop knowledge and skills necessary to understand racial difference and underlying racism and manage conflict resulting from it. The special study seeks to promote racial awareness and racial harmony, diversity competency, and cultural understanding in our multiracial and multicultural society.

Upper-Division Requirements (9 units)

- AFRS 104W - Writing About American Inequality **Units: 3**
- AFRS 144 - Race Relations **Units: 3**
- SWRK 136 - Cultural Diversity and Oppression **Units: 3**

Electives (3 units)

Select one of the following courses:

- AFRS 137 - African American Women **Units: 3** (same as WGSS 137)
- AFRS 189 - Fieldwork in Community Relations **Units: 3**
- ANTH 120 - Race and Ethnic Relations in the U.S. **Units: 3**
- CLAS 170 - Latin American Studies **Units: 3**
- CRIM 175 - Victimology **Units: 3**
- CRIM 176 - Victim Services **Units: 3**
- SOC 111 - Sociology of Race and Ethnicity **Units: 3**
- SSCI 180 - Diversity in the U.S. **Units: 3**
- SWRK 137 - Principles in Cross-Cultural Competence **Units: 3**
- WGSS 120 - Women of Color in the United States **Units: 3**

Total (12 units)

In addition, three units of field experience may be available from the National Coalition Building Institute (NCBI) Train-the-Trainer seminar offered through the Women's Resource Center.

Advising Notes

1. Open to all students.
2. Coursework must be completed with a minimum grade of 2.5.

Reading and Literacy Added Authorization, Certificate of Special Study

Dr. Imelda Basurto, Department Chair
Education Building, Room 250D
559.278.0285
ibasurto@mail.fresnostate.edu
<https://kremen.fresnostate.edu/departments-programs/lebse.htm>

Admission Requirements. In addition to the admission requirements listed in the Graduate Education Program section of this catalog, Reading and Literacy Added Authorization program applicants must possess a basic teaching credential.

Program Requirements (15 units)

Under the direction of the Reading Program Coordinator, each student prepares and submits an individually designed program within the following framework:

Certificate courses may also be used to meet part of the requirements for a master's degree.

- LEE 213 - Teaching the Language Arts K-12 **Units: 3**
- LEE 215 - Language Issues in Reading **Units: 3**
- LEE 224 - Assessment and Development of Reading Abilities **Units: 3**
- LEE 230 - Supervised Teaching in Reading/Language Arts **Units: 3**
- LEE 278 - Literacy Processes and Practices **Units: 3**

Serving At-Risk Youth, Certificate of Special Study

The Certificate in Serving At-Risk Youth is awarded to students who successfully complete 12 units of upper-division coursework selected to provide an overview of the critical issues that face youth and the service concerns associated with meeting their needs. All coursework to be applied to this certificate must be completed with a minimum grade of C.

Required Courses (6 units)*

- RA 113 - Programming for Youth At-Risk **Units: 3**
- RA 115 - Community Placements in Leisure Settings **Units: 1-3**

Elective Courses (6 units)

Select from:

- CFS 136 - Adolescence **Units: 3**
- COMM 164 - Intercultural Communication **Units: 3**
- CRIM 120 - Juvenile Delinquency **Units: 3**
- COUN 150 - Laws Relating to Children **Units: 3**
- EHD 107 - Child Abuse **Units: 3**
- PH 110 - Drugs, Society, and Health **Units: 3**
- MGT 133S - Managing Nonprofit and Socially Responsible, Sustainable Organizations **Units: 3**
- PSYCH 101 - Child Psychology **Units: 3**
- PSYCH 102 - Adolescent Psychology **Units: 3**
- RA 106 - Challenge Course Facilitation **Units: 3**
- RA 117 - Special Event Planning **Units: 3**
- RA 121 - Community and Non-Profit Recreation Services **Units: 3**
- SOC 143 - Deviance and Control **Units: 3**
- SOC 165 - The Family **Units: 3**
- SWRK 128 - Child Welfare **Units: 3**

- SWRK 136 - Cultural Diversity and Oppression **Units: 3**

Total (12 units)

* RA 115 must be taken concurrently with RA 113.

Social Justice and Social Change, Certificate of Special Study

This interdisciplinary certificate prepares students to engage in critically thought-out, intellectually grounded, and tolerant social justice actions. Students who complete the certificate requirements will be equipped with skills for positively directed, theoretically cognizant, and thoroughly respectful social activity within social justice arenas of life.

The Social Justice and Social Change Certificate is useful in many of the diverse fields where students wish to showcase their commitment to and engagement with social justice, including, but not limited to, social work, community and public service, non-profit and charity work, activism, legal careers, business, professional ethics organizations (including corporate and medical ethics boards), environmental science and engineering, as well as further graduate study in the fields of philosophy, sociology, ethnic studies, religious studies, political science, and other fields within the arts, humanities, social sciences, and social work.

Requirements for Certificate

Students earning the certificate will be required to take one class in each of four categories (for a total of 12 units, minimum): Social Justice Theory, Social Diversity, Contemporary Social Issues, and Social Change: Applications. The courses for each category are as follows:

Social Justice Theory (choose one course)

- PHIL 121 - Ethics in Criminal Justice **Units: 3**
- PHIL 125W - Issues in Political Philosophy **Units: 3**
- PHIL 126 - Social Justice **Units: 3**

Social Diversity (choose one course)

- AFRS 144 - Race Relations **Units: 3**
- AFRS 150 - South Africa **Units: 3**
- ANTH 120 - Race and Ethnic Relations in the U.S. **Units: 3**
- CLAS 120 - Latina/o Cultural Changes **Units: 3**
- CLAS 160 - Sex, Race, and Class in American Society **Units: 3**
- CLAS 162 - Chicana Women in a Changing Society **Units: 3**

- COMM 120 - Gender Communication **Units: 3**
- COMM 164 - Intercultural Communication **Units: 3**
- ENGL 141 - African American Masterpieces of American Literature **Units: 4**
- ENGL 142 - American Indian Masterpieces of American Literature **Units: 4**
- ENGL 143 - Asian American Masterpieces of American Literature **Units: 4**
- ENGL 144 - Masterpieces of Chicanx Literature **Units: 4**
- ENGL 178 - Lesbian & Gay Literature **Units: 4**
- ENGL 179 - Multi-Ethnic Literature and Writing **Units: 4**
- LING 148 - Sociolinguistics **Units: 3**
- PHIL 131 - Comparative Religion **Units: 3**
- PHIL 132 - Religion and the Margin **Units: 3**
- PHIL 135 - Asian Religious Traditions **Units: 3**
- PHIL 136 - Buddhism **Units: 3**
- PHIL 137 - Hinduism **Units: 3**
- PHIL 138 - Chinese Thought **Units: 3**
- PHIL 139 - Islam **Units: 3**
- PHIL 158 - Judaism **Units: 3**
- SOC 111 - Sociology of Race and Ethnicity **Units: 3**
- SWRK 136 - Cultural Diversity and Oppression **Units: 3**
- WGSS 11 - Introduction to LGBTQ+ Studies **Units: 3**
- WGSS 120 - Women of Color in the United States **Units: 3**
- WGSS 135 - Women In Cross-Cultural Perspective **Units: 3**
- CLAS 141 - The Chicano Family **Units: 3**
- WGSS 141 - The Chicano Family **Units: 3**

Contemporary Social Issues (choose one course)

- AFRS 137 - African American Women **Units: 3**
- WGSS 137 - African American Women **Units: 3**
- AFRS 139 - The African American Experience: Black Men and the Search for Self-Liberation **Units: 3**
- AFRS 140 - The African American Church **Units: 3**
- AIS 101 - American Indian Law **Units: 3**
- ANTH 123 - Peoples and Cultures of Southeast Asia **Units: 3**
- ANTH 128 - Environmental Anthropology **Units: 3**
- ASAM 110 - Asian American Communities **Units: 3**
- CRIM 120S - Juvenile Delinquency **Units: 3**
- CRIM 138 - Punishment and Society **Units: 3**
- PAX 100 - Peace and Conflict Studies **Units: 3**
- PLSI 175 - Water Politics and Policy **Units: 3**
- SOC 130W - Contemporary Social Issues **Units: 4**
- SOC 130WS - Contemporary Social Issues **Units: 4**

- SOC 151 - Social Classes and Inequality **Units: 4**
- SOC 157 - Social Change **Units: 3**
- WGSS 126 - Women and Violence: Public Policy and the Law **Units: 3**
- WGSS 130 - Women's Health **Units: 3**
- CRIM 126 - Women and Violence: Public Policy and the Law **Units: 3**
- PH 130 - Women's Health **Units: 3**
- WGSS 149 - Gender Law & Social Policy **Units: 3**

Social Change: Applications (choose one course)

- AFRS 146 - Law and the Minority Community **Units: 3**
- ANTH 117 - Anthropology of Health, Illness, and Healing **Units: 3**
- COMM 171 - Communication and Planning Change in the Social System **Units: 3**
- CRIM 178 - Restorative Justice **Units: 3**
- LEE 144S - Service-Learning Pedagogy and Practice **Units: 3**
- PAX 110 - Peace Building **Units: 3**
- SOC 121 - Sociology of Terrorism and Genocide **Units: 3**
- SOC 122 - Social Movements **Units: 3**
- SOC 144 - Social Policy Analysis **Units: 3**
- SOC 174 - Computer Data Analysis **Units: 3**

Southeast Asian Studies, Certificate of Special Study

The Certificate of Southeast Asian Studies requires a minimum of 12 units. Select from the following upper-division courses:

Certificate Requirements

The Minor and the Certificate in Southeast Asian Studies focus 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 the Asian American Studies coordinator, Department of Anthropology, at 559.278.3002.

- ANTH 123 - Peoples and Cultures of Southeast Asia **Units: 3**
- ANTH 190 - Independent Study **Units: 1-3**
- ARTH 140 - Arts of Southeast Asia **Units: 3**
- ARTH 143 - Kingdoms of Monsoon Asia **Units: 3**
- ARTH 190 - Independent Study **Units: 1-3**
- ASAM 110S - Asian American Communities Service-Learning **Units: 3**
- ASAM 138 - Asian American Women **Units: 3**
- ASAM 140 - Hmong, Laotian and Cambodian American Experience **Units: 3**

- ASAM 190 - Independent Study **Units: 1-3**
- GEOG 177T - Asian Regions **Units: 1-3**
- HMONG 100 - Intermediate Reading and Composition **Units: 3**
- HMONG 101 - Advanced Reading and Composition **Units: 3**
- LING 121 - Hmong Language, Culture, and Identity **Units: 3**
- SWRK 181I - Field Instruction A **Units: 6**

Special Event Planning, Certificate of Special Study

The Certificate in Special Event Planning is designed to prepare students to plan large community events such as street fairs, community festivals, convention center events, major fund-raising events, corporate events, and joint sponsorship events. Students must complete a minimum of 12 units of upper-division coursework. All coursework to be applied to this certificate must be completed with a minimum grade of C.

The certificate is appropriate for those students seeking employment in community-based recreation agencies, corporate recreation, community nonprofit organizations, convention centers, and any business dealing with special event planning.

Required Courses (9 units)

- RA 115 - Community Placements in Leisure Settings **Units: 1-3 ***
- RA 117 - Special Event Planning **Units: 3 ***
- RA 135 - Recreation, Parks, and Tourism Marketing **Units: 3**
- OR
- MKTG 100S - Marketing Concepts **Units: 4**

Elective Courses (3 units)

Select from:

- FSM 131 - Introduction to Food Systems Management **Units: 3**
- MCJ 106 - Publication Design **Units: 3**
- MGT 133S - Managing Nonprofit and Socially Responsible, Sustainable Organizations **Units: 3**
- RA 119 - Conference, Convention, and Meeting Planning **Units: 3**
- SOC 183S - Philanthropy and Grant Making **Units: 3**

Total (12 units)

*RA 115 and RA 117 must be taken concurrently.

Sports and Entertainment Facility Management, Certificate of Special Study

The certificate in Sports and Entertainment Facility Management is awarded to students who successfully complete 16 units of upper-division coursework selected to provide students a foundation in this area. The certificate is appropriate for students with interest in stadiums, arenas, convention centers, performing arts centers, and other public assembly facilities. Students will learn about the operations, marketing, and management of these facilities, as well as gain related practical experience. All coursework to be applied to this certificate must be completed with a minimum grade of C.

Required Courses

- RA 115 - Community Placements in Leisure Settings **Units: 1-3**
- RA 117 - Special Event Planning **Units: 3**
- RA 150 - Sports and Entertainment Facility Management **Units: 3**
- RA 152 - Sports and Entertainment Facility Booking, Promotion and Box Office Operations **Units: 3**
- RA 154 - Sports and Entertainment Facility Operations **Units: 4**

Total (16 units)

RA 55 is recommended for RA majors prior to RA 150. RA 115 must be taken concurrently with RA 150, or RA 152 and RA 154. RA 150 and RA 135 or MKTG 100S are prerequisites for RA 152. RA 152 and RA 154 must be taken concurrently.

Sports Marketing, Certificate of Special Study

Requirement for Certificate Programs

Before entering a program, students will need to demonstrate that they have foundation knowledge of business practices and possess good writing skills. Prior approval of the certificate program coordinator or the department chair is required. Students need to meet one of the following criteria:

1. be currently admitted to California State University, Fresno, or
2. have a bachelor's degree in any field from an accredited institution, or
3. have an associate of arts from a two-year accredited college and a minimum of two years of business experience.

Required Courses: (15 units)

- MKTG 100S - Marketing Concepts **Units: 4**
- MKTG 110 - Consumer Behavior **Units: 4**
- MKTG 150 - Sports Marketing **Units: 3**
- MKTG 161 - Sports Licensing, Sponsorship, and Promotion **Units: 4**

Elective Courses (3-4 units)

Select from:

- MKTG 132 - Promotion Mix: Principles and Practices **Units: 4**
- MKTG 140 - Global Marketing **Units: 4**
- MKTG 195I - Internship **Units: 3**
- RA 150 - Sports and Entertainment Facility Management **Units: 3**
- RA 152 - Sports and Entertainment Facility Booking, Promotion and Box Office Operations **Units: 3**
- ECON 144 - Economics of Sports **Units: 3**
- ECON 150 - Labor Economics **Units: 3**
- BA 152E - Law for Entrepreneurs **Units: 3**
- BA 179 - Legal & Ethical Aspects of Sports Marketing **Units: 3**

Total (18-19 units)

Note: a grade of C or better in each course is required.

Studio Production, Certificate

The certificate in studio production provides a well-rounded background in techniques of video production, particularly as they concern work based in a digital television studio. It prepares students for professional work in live and pre-recorded studio production. This 18-unit program includes coursework in writing techniques, hands-on production and post-production.

Required:

- MCJ 4 - Writing for Visual Media **Units: 3**
- MCJ 15 - Filmmaking I **Units: 3**
- MCJ 111 - Post-Production **Units: 3**
- MCJ 113 - Advanced Television Studio Production **Units: 3**
- MCJ 123 - Fresno State Focus Crew **Units: 3**

Choose one:

- MCJ 115 - Filmmaking II **Units: 3**
- MCJ 121 - News Video Production **Units: 3**

Total (18 units)

Victim Services, Certificate of Special Study

Dr. Tinneke Van Camp, Coordinator
Science II Building, Room 133
559.278.7027

The primary goal of the Victim Services Program is to provide experiences, knowledge, and educational skills for working with victims within a criminological/human development framework. This program is also very useful for individuals interested in pursuing a career in the area of behavioral sciences.

Students working toward a Victim Services Certificate have an opportunity to receive an interdisciplinary/interagency examination of victim services as they relate to theoretical concepts, legal aspects, victim rights, causes of victimization, and services available to assist the victim. Emphasis is directed toward assisting the students in acquiring new perspectives and skills needed for working effectively with different types of victims.

Admission. For admission information, contact the Department of Criminology in Science II, Room 159, 559.278.2305.

Program Requirements.

Under the direction of the graduate advisor, each student prepares and submits an individually designed program within the following framework:

1. Theory (3 units)

- CRIM 175 - Victimology **Units: 3**

2. Victim Issues (3 units)

Select a minimum of 3 units:

- CRIM 140 - Family Violence **Units: 3**
- WGSS 116 - Domestic Violence **Units: 1**
- WGSS 108 - Rape and Sexual Assault **Units: 1**
- WGSS 109 - Incest **Units: 1**
- WGSS 115 - Women, Children & Alcohol **Units: 1**

3. Service Delivery (3 units)

Select from:

- CRIM 176 - Victim Services **Units: 3**
- SWRK 128 - Child Welfare **Units: 3**

4. Legal/Social Policy (3 units)

Select from:

- CRIM 177 - Legal Policy in Victim Services **Units: 3**
- CRIM 126 - Women and Violence: Public Policy and the Law **Units: 3**
- WGSS 126 - Women and Violence: Public Policy and the Law **Units: 3**
- WGSS 149 - Gender Law & Social Policy **Units: 3** [GE ID]

Total (12 units)

Certificates of Advanced Study

Biotechnology, Certificate of Advanced Study

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 **Units: 8**
- M.Bt. Courses IIA, B, C, F **Units: 12**

Community and Regional Planning, Certificate of Advanced 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 Research and 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.htm>
1

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 Research and 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, GEOG 202, and GEOG 203 are offered sequentially, with each course finished within 4-5 weeks. GEOG 204 and GEOG 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

- GEOG 201 - Foundations in Urban Planning **Units: 3**
- GEOG 202 - Land Use Regulation, Law & Ethics **Units: 3**
- GEOG 203 - Community Planning **Units: 3**
- GEOG 204 - Environmental Planning **Units: 3**
- GEOG 205 - Transportation Planning **Units: 3**

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 Advanced Study

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 - Seminar in Teaching Writing: Theory and Practice **Units: 4**
- ENGL 281 - Current Writing Theory **Units: 4**

Electives (6-8 units)

Some of the courses may have prerequisites

- LING 237 - Teaching Reading and Writing to Speakers of Other Languages **Units: 3**
- LING 244 - Curriculum Design and Classroom Evaluation **Units: 3**
- LING 251 - Seminar in Discourse Analysis **Units: 3**
- COMM 214 - Seminar in Instructional Communication **Units: 3**
- ENGL 265 - Seminar: Writing Creative Nonfiction **Units: 4** or other electives approved by graduate adviser.

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 B in 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.

Educational Technology - Certificate of Advanced Study

Roy Bohlin, Coordinator
royb@csufresno.edu

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 additionally 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. In addition to the admission requirements listed in the Graduate Education Program section of this catalog, admission to the Certificate of Advanced Study in Educational Technology requires a minimum of 2.75 GPA, a statement of purpose, and two letters of recommendation.

Program Requirements. Under the direction of the program advisor, each student prepares and submits an individually designed program within the following framework. Note: Per university policy regarding the double counting of coursework, only 2 courses (6 units) may be used towards a master's degree.

Course Requirements

- CI 225 - Integration of Technology Across the Curriculum **Units: 3**
- CI 227 - Current Issues and Trends in Educational Technology **Units: 3**
- Approved Educational Technology Electives **Units: 8 - 9**

Total: 14-15 Units

Geographic Information Systems, Certificate of Advanced Study (Continuing & Global Education)

Certificate of Advanced Study in Geographic Information Systems (GIS) Requirements

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 GIS **Units: 3**
- EES 212 - Geospatial Technologies **Units: 3**
- EES 214 - Advanced Spatial Analysis **Units: 3**
- EES 216 - GIS Practicum **Units: 3**

Total: 12 Units

Linguistics - TESOL/SLAT (Second Language Acquisition & Teaching), Certificate of Advanced Study

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, LING 141, and LING 171I), required courses are LING 237, LING 241S, LING 244, and LING 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 - Teaching Listening, Speaking & Pronunciation to Speakers of Other Languages **Units: 3**
- LING 237 - Teaching Reading and Writing to Speakers of Other Languages **Units: 3**
- LING 241S - Seminar in TESOL/SLAT **Units: 3**
- LING 244 - Curriculum Design and Classroom Evaluation **Units: 3**

Psychiatric Mental Health Nurse Practitioner, Certificate of Advanced Study

Dr. Janice Sanders, Program Coordinator
McLane Hall 284
559.278.2429

The Psychiatric Mental Health Nurse Practitioner (PMHNP) Program is a one-year post-master's program designed to prepare primary care nurse practitioners to provide the full range of psychiatric services to patients throughout the life cycle. This is a formally constructed program that meets the requirements for national certification by the American Nurse Credentialing Center as an Adult Psychiatric and Mental Health or Family Psychiatric and Mental Health Nurse Practitioner.

The program of study consists of 18 post-master's units. To enhance access and provide flexibility, the program will be largely distance delivered via synchronous and asynchronous modalities.

Coursework

- NURS 243 - Psychiatric Disorders & Mental Health Problems in Primary Care **Units: 2**
- NURS 244 - Advanced Psychopharmacology Across the Life Span **Units: 3**
- NURS 245 - Management of Common Psychiatric Conditions in Primary Care **Units: 2**
- NURS 246 - Methods of Psychotherapy **Units: 2**
- NURS 247 - Management & Care of Patients with Acute & Chronic Psychiatric Conditions **Units: 4**
- NURS 248 - Psychiatric Disorders & Mental Health Problems in Special Populations **Units: 2**
- NURS 249 - Management & Mental Health Care of Special Populations **Units: 4**

Total (18 units)

All courses are taken through Continuing and Global Education via special sessions. Courses are offered once a year and students proceed through the program as a cohort. There is no part-time option available at this time.

Admissions Criteria

- Master's of Science in Nursing.
- Currently practicing as a primary care nurse practitioner, i.e. Family Nurse Practitioner,
- Pediatric Nurse Practitioner, Adult Nurse Practitioner, or Geriatric Nurse Practitioner.
- Valid California Nurse Practitioner license and furnishing number.
- Current Drug Enforcement Administration authorization for Schedule II medications.
- Three letters of recommendation, with at least one from a recent employer.

Admissions Procedures

- Applicants first complete the online University application at calstate.edu/apply.
- The program has additional requirements for admission. Complete instructions for application to the program are available within the <http://calstate.edu/apply> process.
- All program admissions materials should be sent to:
School of Nursing
California State University, Fresno
2345 E. San Ramon Ave. M/S MH25
Fresno, CA 93740
Attn.: Janice Saunders, Program Coordinator

Certificate of Advanced Study Requirements

- completion of the set program of study (18 units) with a GPA of 3.0 or higher within a 5-year period.

Research Methods - Certificate of Advanced Study

Certificate of Advanced Study - Research Methods

Christian Wandeler, Coordinator

Education Building, Room 439

559.278.0355

cwandeler@csufresno.edu

The Certificate of Advanced Study in Educational Technology is a postbaccalaureate program designed to empower professionals in all areas of education and other disciplines to learn about advanced methodologies in quantitative, qualitative, and mixed methods research and to develop the skills to make ethical, sound, and supportable decisions to advance the education of all persons.

Students completing this program will be able to do the following:

- Understand the theories underpinning quantitative research, statistical methodologies, qualitative research, and mixed methods research.
- Understand the ethics of research; describe the principals of protecting human subjects; respect individuals of diverse ethnicities, races, religions, and genders; and utilize accepted and ethical procedures for conducting research.
- Develop exemplary skills in designing research studies, measuring constructs, and collecting information.
- Demonstrate exemplary skills in analyzing data, interpreting results accurately, and making sound decisions based on those results.
- Demonstrate skills as informed consumers, qualified producers of research, and leaders in disseminating research results.

Up to 6 units of coursework taken while working on this certificate may be counted as units toward a master's degree in the KSOEHD.

Admission Requirements. In addition to the admission requirements listed in the Graduate Education Program section of this catalog, admission to the Certificate of Advanced Study in Research Methods requires a minimum 2.75 GPA, a statement of purpose, and two letters of recommendation.

Program Requirements. Under the direction of the program adviser, each student takes five of the following six courses. Note: Per university policy regarding the double counting of coursework, only 2 courses may be used towards a master's degree.

Course Requirements

- ERE 153 - Educational Statistics **Units:** 3
- ERE 220 - Research in Education **Units:** 3
- ERE 243 - Research on Teaching in the Multicultural Classroom: Quantitative and Qualitative Methods **Units:** 3
- ERE 287 - Qualitative Research Methods in Education **Units:** 3
- ERE 288 - Educational Measurement and Program Evaluation **Units:** 3
- ERE 289 - Statistical Modeling **Units:** 3

Total: 15 Units

Courses

Course Numbering System

1-99

Lower-division courses are designed for first- and second-year students but open to the others.

100-199

Upper-division courses 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 curriculum. 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 Research and Graduate Studies.

290

Independent study, graduate

298

Graduate Degree Project. Restricted to graduate students having received official notification by the Division of Research and Graduate Studies of approval for advancement to candidacy. For complete eligibility requirements, see Criteria for Thesis and Project under Graduate Studies. Project schedule 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 Research and Graduate Studies and who have filed an approved thesis committee assignment form with the Division of Research and Graduate Studies. For complete eligibility requirements, see Criteria for Thesis and Project under Graduate Studies. Thesis schedule 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 [see also internship 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 course
- **I** Internship course
- **L** Laboratory associated with another course
- **M** Multiple subject designation for education courses/methods designation for communication courses
- **N** Non-majors
- **S** Service Learning course
- **T** Topics course, varied area subject matter, repeatable for credit with different title and description
- **W** Writing skills course, meets upper-division (UDWS) requirement 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. The instructor can 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.

Courses by Subject.

Accountancy

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.

Units: 3

Course Typically Offered: Fall, Spring

ACCT 4B - Managerial Accounting Principles and Systems

Prerequisite: ACCT 4A with a C grade or better. Not open to freshmen. Basic coverage of managerial control and decision support tools, job order costing, activity based costing, standard costing, budgeting, relevant costing, and quality control.

Units: 3

Course Typically Offered: Fall, Spring

ACCT 120A - Intermediate Accounting I

Prerequisite: ACCT 4A with a B grade or better, or a 2.5 GPA in ACCT 4A and ACCT 4B, or ACCT 4A with a C grade or better. Corequisite: 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: ACCT 120A with a C grade or better. 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; noncurrent 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

Prerequisite: ACCT 4A with a B grade or better, or a 2.5 GPA in ACCT 4A and ACCT 4B, or ACCT 4A with a C grade or better. Corequisite: 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.

Units: 4

Course Typically Offered: Fall, Spring

ACCT 144 - Tax Accounting and Planning

Prerequisite: ACCT 4A with a C grade or better.
Federal income taxation, research, and planning affecting individuals.

Units: 4

Course Typically Offered:

ACCT 145 - Federal Income Taxation of Entities and the Federal Uniform Estate and Gift Tax

Prerequisite: ACCT 4B and ACCT 144 with a C grade or better.
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 146S - Accounting Information Systems and Controls SL

Prerequisite: ACCT 4A , ACCT 4B and IS 130 with a C grade or better.
Design of systems used in the collection, organization and reporting of accounting information. Applied knowledge of business cycles and internal system controls using relevant AIS software. Introduction to accounting analytics for managerial reporting, financial analysis, and auditing purposes. Academic topics and skills learned in this class will be applied in a real-world Service-Learning experience.

Units: 4

Course Typically Offered: Fall, Spring

ACCT 148 - Accounting for Governmental and Nonprofit Organizations

Prerequisite: ACCT 120A with a C grade or better.
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

Prerequisite: ACCT 120A and ACCT 120B with a C grade or better.
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:

ACCT 165 - International Accounting

Prerequisite: ACCT 4A , ACCT 4B, and ACCT 120A with a C grade or better.
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 C grade or better.
Accounting for corporate consolidations and partnerships.

Units: 4

ACCT 169 - Forensic Accounting

Prerequisite: ACCT 120A and ACCT 132 with a C grade or better.
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.

Units: 4

Course Typically Offered: Fall, Spring

ACCT 170A - CPA Exam Study I: Business Environment and Concepts (BEC) & Financial Accounting and Reporting (FAR)

Prerequisite: ACCT 120A, ACCT 120B, ACCT 132 and ACCT 187 with a C grade or better. ACCT 148 and ACCT 167 recommended
The course is available for students in the Professional Accounting Certificate Program only and cannot be used toward undergraduate or graduate degree requirements. The course will cover two of the four exam sections of the national examination required to become a Certified Public Accountant: Business Environment and Concepts (BEC) and Financial Accounting and Reporting (FAR).

Units: 3

Course Typically Offered: Fall

ACCT 170B - CPA Exam Study II: Auditing (AUD) & Regulation (REG)

Prerequisite: ACCT 120A, ACCT 120B, ACCT 132, ACCT 144 and ACCT 187 with a C grade or better. ACCT 162 and ACCT 145 recommended.
The course is available for students in the Professional Accounting Certificate Program only and cannot be used toward undergraduate or graduate degree requirements. The course will cover two of the four exam sections of the national examination required to become a Certified Public Accountant: Auditing and Attestation (AUD) and Regulation (REG).

Units: 3

Course Typically Offered: Fall

ACCT 187 - Accounting Ethics and Professional Responsibilities

Prerequisite: ACCT 120A, ACCT 120B and ACCT 132 with a C grade 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 189T - Topics in Accounting and Auditing

This course provides an introduction to the environment of financial accounting and reporting, financial statement analysis, federal income taxation affecting individuals, and Quickbooks financial software. Students will learn what accounting is, identify four financial statements, learn how to understand and analyze financial statements, and become familiar with federal income tax law in the determination of income, deductions, gains, losses, taxable income for individual income taxpayers. Students will also learn how to use Quickbooks to organize business finances and create invoices and reports.

Units: 3 **Repeatable** for a maximum of 6 units.

ACCT 190 - Independent Study

See Academic Placement -- Independent Study. Approved for RP grading.

Units: 1-3 **Repeatable** for a maximum of 6 units.

Course Typically Offered: Fall, Spring

ACCT 195I - Internship

Prerequisite: permission of internship coordinator

As a course substitution, prior department approval required. Only one internship may count towards option requirements. CR/NC grading only. Requires 150 hours of work at a pre-qualified, academically-related work station (business, government or nonprofit agency).

Units: 3 **Repeatable** for a maximum of 6 units.

Course Typically Offered: Fall, Spring

Africana Studies

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 ideologies of race and gender, and evaluates culture and ethnic experience.

Units: 3

AFRS 10 - Introduction to Africana Studies: Beginnings, Political Struggle, and Academic Warfare

GE Area/Graduation Requirement: GE Breadth F

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.

Units: 3

Course Typically Offered: Fall

AFRS 15 - Slavery and the American Experience

GE Area/Graduation Requirement: GE Breadth F

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

AFRS 20 - Critical Thinking About Race

GE Area/Graduation Requirement: GE Foundation A3

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

AFRS 21 - Gospel Choir

(Same as AFRS 121 and MUSIC 102GC)
Performance of a variety of inspirational songs reflecting the African American cultural experience. Participation through rehearsals, activities, programs, and field trips.

Additional Activity: field trips

Units: 1 **Repeatable** for a maximum of 8 units.

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 - Black Popular Culture

GE Area/Graduation Requirement: GE Breadth F

Introduction to the historical and contemporary experiences of African Americans. Examines historical and social arrangements implicated in the experiences and the images these arrangements construct both in the United States and around the world.

Units: 3

Course Typically Offered: Fall, Spring

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 societies; understanding the impact of colonialism in Africa; realizing the relationship of African Americans to Africa.

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.

Additional Activity: field trips

Units: 3

AFRS 40 - Law, Policing, and Black Communities

GE Area/Graduation Requirement: GE Breadth F

Introduction to the historical and contemporary experiences of African Americans as shaped by

laws, policing, and the prison system. Examines African American perceptions of the legal system, including their efforts to implement change.

Units: 3

Course Typically Offered: Fall

AFRS 55T - Topics in African American Studies

Selected topics at the introductory level in African American Studies.

Units: 1-3 **Repeatable** for a maximum of 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 68 - Black Protest from Emmett Till to Breonna Taylor

GE Area/Graduation Requirement: GE Breadth F

Introduction to historical and contemporary Black experience related to social protest/justice from 1955 to the present, including the Civil Rights Movement, Black Power, and the movement for Black lives. Emphasis on racial justice with inclusion of intersectionality and diverse identities.

Units: 3

Course Typically Offered: Fall, Spring

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.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Units: 3

AFRS 104W - Writing About American Inequality

Prerequisite: GE Foundation A2 with a C grade or better.

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.

Units: 3

Course Typically Offered: Fall, Spring

AFRS 121 - Gospel Choir

(Same as AFRS 21 and MUSIC 102GC)

Performance of a variety of inspirational songs reflecting the African American cultural experience. Participation through rehearsals, activities, programs, and field trips.

Additional Activity: field trips

Units: 1 **Repeatable** for a maximum of 8 units.

AFRS 129 - African American Literary Classics

GE Area/Graduation Requirement: GE Integration IC

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.

Units: 3

Course Typically Offered: Fall, Spring

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** for a maximum of 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.)

Units: 3

Course Typically Offered: Fall

AFRS 137 - African American Women

(AFRS 137 same as WGSS 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 society vs. legitimate definition designed to encourage a positive self-concept.

Units: 3

AFRS 139 - The African American Experience: Black Men and the Search for Self-Liberation

In this course, we will study the history of Black men, Black masculinity, and representations of Black men in media over the last century.. We will explore Black men's relationships with Black women, the State, and to other Black men.

Units: 3

Course Typically Offered: Fall

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

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 shapes Africana gender identities, political sensibilities, and cultural worldviews.

Units: 3

Course Typically Offered: Spring

AFRS 144 - Race Relations

GE Area/Graduation Requirement: GE Integration ID

Prerequisite: G.E. Foundation, Breadth Area D and PLSI 2

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.

Units: 3

Course Typically Offered: Spring

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

GE Area/Graduation Requirement: Multicultural/International

Prerequisite: GE Foundation and Breadth Area D

An introductory analysis of the social, racial, political, and economic problems of people of South Africa, both past and present.

Units: 3

Course Typically Offered: Spring

AFRS 164 - African Cultural Perspectives

GE Area/Graduation Requirement: Multicultural/International

Prerequisite: GE Foundation and Breadth D.

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

AFRS 165 - African-American Theatre

(DRAMA 187 same as AFRS 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.

Units: 3 **Repeatable** for a maximum of 6 units.

AFRS 178 - History of African Americans

(HIST 178 same as AFRS 178.)

Units: 3

AFRS 180T - Community-Based Topics in Africana Studies

Selected topics related to Black culture, Black institutions and networks, contemporary issues, activism and anti-bias work. CR/NC grading

only.

Units: 1-3 **Repeatable** for a maximum of 9 units.

AFRS 189 - Fieldwork in Community Relations

Supervised field observation, participation, and documentation in the operation of minority communities.

Units: 3 **Repeatable** for a maximum of 6 units.

Course Typically Offered: Spring

AFRS 190 - Independent Study

See Academic Placement -- Independent Study. Approved for RP grading.

Units: 1-3 **Repeatable** for a maximum of 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.

Additional Activity: field trips

Units: 1

Course Typically Offered: Spring

Agricultural Business

AGBS 1 - Introductory Agricultural Economics

GE Area/Graduation Requirement: GE Breadth D2

Prerequisite: G.E. Foundation A2 for students in English college-readiness Category III and IV
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.

Units: 3

Course Typically Offered: Fall, Spring

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; impact on agribusiness asset values, debt accumulation, income levels.

Units: 3

Course Typically Offered:

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; legislative 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:

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:

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.

Units: 3

Course Typically Offered:

AGBS 71 - Agricultural Business Statistics

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, hypotheses 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:

AGBS 78 - Agribusiness Quantitative Analysis

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

Prerequisite: AGBS 1 or ECON 40 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 **Repeatable** for a maximum of 4 units.

Course Typically Offered:

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** for a maximum of 6 units.

AGBS 100 - Intermediate Agricultural Economics

Prerequisite: AGBS 1 or ECON 40; MATH 11 or MATH 75 or MATH 75A and MATH 75B

Analysis of farm financial statements; 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 105 - Agricultural Business Quantitative Methods

Prerequisite: AGBS 1, AGBS 76 (C grade or better); MATH 11 or MATH 75 or MATH 75A and MATH 75B

Advanced functional relationships, modeling and decision-making analysis in agribusiness; linear programming, sensitivity and regression analysis in spreadsheet models; application of statistical tests for efficient data examination.

Units: 3

Course Typically Offered: Fall, Spring

AGBS 109 - Management of Agri-food Supply Chains

Prerequisite: AGBS 100 and AGBS 105
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

Prerequisite: 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 or ECON 40

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 or ECON 40

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:

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.

Additional Activity: field trips

Units: 3

AGBS 124 - Food and Fiber Industry Management

Prerequisite: AGBS 1 or ECON 40

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 Leadership

The role of government, industry, and consumers in developing comprehensive and inclusive solutions to current agricultural and food issues is explored. Leadership and communication skills for accomplishing group objectives are developed.

Additional Activity: field trips

Units: 3

Course Typically Offered: Spring

AGBS 130 - Agricultural Finance

Prerequisite: Prerequisites: AGBS 2, AGBS 32, AGBS 76.

Prerequisite or Corequisite: AGBS 100 or permission of instructor.

Analysis of farm financial statements; 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:

AGBS 131 - Agricultural Capital Markets

Prerequisite: AGBS 2 and 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.

Units: 3

Course Typically Offered: Spring

AGBS 136 - Farm and Ranch Appraisal

Prerequisite: AGBS 1 or ECON 40; AGBS 110 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

Prerequisite: AGBS 1 or ECON 40; AGBS 2 or ECON 50

U.S. agricultural sector in the global economy; 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 or ECON 40; 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

GE Area/Graduation Requirement: GE Integration ID

Prerequisite: G.E. Foundation and Breadth Area D

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.

Units: 3

Course Typically Offered: Fall, Spring

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 or ECON 40

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 170WS - Advanced Agribusiness Applications

Prerequisite: AGBS 1, AGBS 2, AGBS 28, AGBS 32, and AGBS 76

To be taken no sooner than the term in which 60 units are completed or concurrently enrolled. Introduction to various types of professional agribusiness written communications. The development of written communication skills will include business correspondence and other forms common to agribusinesses. Meets the upper-division writing requirement for graduation. A service learning project is expected of all students.

Units: 3

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

Prerequisite: 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 **Repeatable** for a maximum of 6 units.

Course Typically Offered:

AGBS 185T - Topics in Agricultural Business

Prerequisite: AGBS 1 or ECON 40

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** for a maximum of 9 units.

AGBS 192 - Agricultural Business Field Studies

Prerequisite: AGBS 1 or ECON 40

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.

Weekly Lecture Hours: 1

Weekly Lab/Activity Hours: 2

Additional Activity: field trips

Course Fee: field trip fees, \$75

Units: 2

AGBS 194I - Agribusiness Internship

Prerequisite: sophomore 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** for a maximum of 6 units.

Course Typically Offered:

AGBS 195 - Agricultural Business Competitive Teams

Prerequisite: AGBS 1 or ECON 40

This course provides students with hands-on

experience incorporating theories and tools learned through required coursework. Activities will be an "academic playground" that will give students the opportunity to show off their skills in a competitive environment among colleges and universities.

Units: 3 **Repeatable** for a maximum of 6 units.

Course Typically Offered: Fall, Spring

AGBS 280T - Topics in Agricultural Business

Prerequisite: 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** for a maximum of 6 units.

AGBS 290 - Independent Study

See Academic Placement -- Approved for SP grading.

Units: 1-3 **Repeatable** for a maximum of 6 units.

Agricultural Education

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:

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

Units: 3

Course Typically Offered:

AGED 80 - Undergraduate Research

Prerequisite: 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 **Repeatable** for a maximum of 4 units.

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** for a maximum of 4 units.

Course Typically Offered: Spring

AGED 120S - Leadership & Communications

Students will develop leadership skills, self-confidence, and oral and written 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** for a maximum of 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:

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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Units: 3

Course Typically Offered:

AGED 160T - Topics in Agriculture

Prerequisite: junior standing and permission of instructor
Agricultural education. Topics may require lab hours.

Units: 1-4 **Repeatable** for a maximum of 6 units.

AGED 166 - Agricultural Publication Production

Application of various skills, including writing, editing and layout, in producing agricultural publications with an emphasis on computer software applications for publishing.

Units: 3

Course Typically Offered:

AGED 180 - Undergraduate Research

Prerequisite: 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 **Repeatable** for a maximum of 4 units.

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

Prerequisite: junior/senior standing, MEAG 1
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** for a maximum of 6
units.

Course Typically Offered: Fall, Spring

Agriculture - Graduate or Interdisciplinary

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.

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 110 - Introduction to Agricultural Leadership

Prerequisite: junior/senior standing
Introduction to leadership theory and leadership
models; development, application and reflection
of personal leadership capabilities through self-
assessments and experiential learning activities.
(Formerly AGED 160T)

Units: 3

Course Typically Offered: Fall

AGRI 120 - Leadership in Groups and Teams

Prerequisite: junior/senior standing
Understanding and development of successful
teams, multiple roles within teams, improving
group performance, planned change and the
evaluation of teams within the agricultural
industry and related disciplines. (Formerly
AGED 160T)

Units: 3

Course Typically Offered:

AGRI 130 - Professional Development in Agriculture

Prerequisite: junior/senior standing
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. (Formerly
AGED 160T)

Units: 3

Course Typically Offered: Fall

AGRI 140 - Leadership and Change

Prerequisite: junior/senior standing
Prepares students for addressing complex
personal and organizational food, consumer, and
agricultural issues related to leading change.
Students gain competencies necessary in the
diffusion of innovations. (Formerly AGED
160T)

Units: 3

Course Typically Offered: Spring

AGRI 150 - Agricultural Leadership Project

Prerequisite: junior/senior standing
Prerequisite or Corequisite: AGRI
110 and AGRI 130

Application of communication and leadership
skills and abilities through practical experience
related to the students chosen career field.
CR/NC grading only.

Units: 1-3 **Repeatable** for a maximum of 3
units.

Course Typically Offered: Fall, Spring

AGRI 160T - Topics in Agriculture

Prerequisite: junior standing and permission of
the instructor
Topics in Agriculture.

Units: 1-4 **Repeatable** for a maximum of 6
units.

AGRI 200 - Biometrics in Agriculture

Prerequisite: 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: BIOL 161 or CHEM
105 or CHEM 129A or 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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
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

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. Maximum total credit 9 units in any given area or any combination of the three areas.

Units: 1-3 **Repeatable** for a maximum of 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 **Repeatable** for a maximum of 3 units.

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 298C - Project Continuation

Prerequisite: AGRI 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

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 making 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** for a maximum of 6 units.

Arts and Humanities Interdisciplinary

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.

Units: 3

Course Typically Offered:

AH 101H - Arts & Humanities Honors Colloquium

Refinement, completion, and presentation of Honors Thesis/Project.

Units: 3

Course Typically Offered: Fall, Spring

AH 105 - Arts and Humanities Study Abroad Experience

GE Area/Graduation Requirement: GE Integration IC

Prerequisite: G.E. Foundation and Breadth Area C
An Examination of the cultural environment of the foreign city or country visited, its art, architecture, language, literature, music, philosophy/religion, and their interrelationships.

Units: 3

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.

Units: 3

American Indian Studies

AIS 5 - American Indian History

GE Area/Graduation Requirement: GE Breadth F

Surveys American Indian history from

American Indian historical perspectives and records, including accounts of American Indian origins, cultures, sciences and self-governance prior the arrival of colonialism. AIS 5 also explores the impacts of early settler colonialism and U.S. nation-formation.

Units: 3

AIS 9T - Topics in American Indian Studies

Selected topics at an introductory level in American Indian Studies.

Units: 1-3

AIS 10 - Introduction to American Indian Studies

GE Area/Graduation Requirement: GE Breadth F

Surveys intellectual traditions in American Indian Studies. Includes examinations of historical events, social justice and sovereignty movements, key thinkers, in the production of American Indian knowledge systems. Core fields include: History, Federal-Indian Law, Literary and Oral Traditions, and Sovereignty.

Units: 3

Course Typically Offered: Fall, Spring

AIS 50 - Contemporary Life of the American Indian

GE Area/Graduation Requirement: GE Breadth D2

Prerequisite: G.E. Foundation A2 for students in English college -readiness Category III and IV
Current problems of American Indians and Arctic Natives resulting from culture conflict, acculturation, minority status, and governmental policy..

Units: 3

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** for a maximum of 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 - California American Indians

GE Area/Graduation Requirement: GE Breadth F

Surveys the precolonial American Indian cultures of California, historical developments of California American Indian cultures according to regional resources, and explores the ongoing impacts of colonial and western expansion in the California region on American Indian peoples. Political, cultural, and creative expressions of California American Indian peoples will be examined to see how the relationships between state-making and the political, social, cultural, and economic issues are faced by California American Indians today.

Units: 3

AIS 105W - American Indian Oral Traditions and Literatures

Prerequisite: GE Foundation A2 with a C grade or better.
Provides advanced training in academic and professional writing in three genres of American Indian Studies. Offers an interdisciplinary and comparative exploration of the diverse oral

traditions and writing cultures in American Indian Studies and engages students in advanced meditations on writing in the American Indian Studies genres: 1) History and Law; 2) Literary Analysis; 3) Policy Proposal development. Students will produce a "Writing Portfolio".

Units: 3

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

AIS 189 - Fieldwork in Community Relations

Supervised field observation, participation, and documentation in the operation of minority communities.

Units: 3

AIS 190 - Independent Study

See Academic Placement -- Independent Study. Approved for RP grading.

Units: 1-3 **Repeatable** for a maximum of 6 units.

Anthropology

ANTH 2 - Introduction to Cultural Anthropology

GE Area/Graduation Requirement: GE Breadth D2

Prerequisite: G.E. Foundation A2 for students in English college -readiness Category III and IV
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.

Units: 3

Course Typically Offered:

ANTH 3 - Introduction to Prehistory and Physical Anthropology

GE Area/Graduation Requirement: GE Breadth D2

Prerequisite: G.E. Foundation A2 for students in English college -readiness Category III and IV
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.

Units: 3

Course Typically Offered:

ANTH 30 - Critical Thinking in Anthropology

GE Area/Graduation Requirement: GE Foundation A3

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.

Units: 3

Course Typically Offered:

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.

Units: 3

Course Typically Offered: Fall

ANTH 101 - Introductory Fieldwork in Archaeology

An introduction to basic methods for archeological excavation and site survey. This involves a block of time in the field away from campus. Can be repeated up to two times for credit.

Course Fee: \$75

Units: 3-6 **Repeatable** for a maximum of 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.

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 103 - Archaeological Site Survey

An introduction to basic methods for archaeological site survey. The course involves a block of time in the field away from campus. Can be repeated up to two times for credit.

Units: 3 **Repeatable** for a maximum of 12 units.

ANTH 104 - History of Anthropology

Provides an overview of the history of Anthropology with an emphasis on the social, cultural, political, and historical context for the development of the discipline.

Units: 3

Course Typically Offered: Spring

ANTH 105W - Applied Anthropology

GE Area/Graduation Requirement: Multicultural/International

Prerequisite: GE Foundation and Breadth D. 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 GE Areared to the needs of professionals, service providers, and particularly planners in modern institutional contexts. Meets the upper-division writing skills requirement for graduation.

Units: 3

Course Typically Offered:

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** for a maximum of 12 units.

ANTH 111B - Intermediate Ethnographic Fieldwork

Prerequisite: ANTH 111
Students conduct an ethnographic 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.

Additional Activity: field trips
Units: 3

Course Typically Offered: Spring

ANTH 115 - Contemporary Global Culture

Examines contemporary trends in the study of culture worldwide. Students will learn about current theoretical trends and debates in the field of Cultural Anthropology and explore how

those trends and debates play out in current works of ethnography.

Units: 3

Course Typically Offered: Spring

ANTH 116W - Anthropology of Religion

GE Area/Graduation Requirement: GE Integration ID

Prerequisite: GE Foundation with a C grade or better, Breadth Area D and PLSI 2. 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.

Units: 3

Course Typically Offered:

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 societies such as the United States.

Units: 3

Course Typically Offered:

ANTH 118 - Sex, Gender, Biology and Culture

(ANTH 118 same as WGSS 170) A cross-cultural and interdisciplinary analysis. Examines theories and frameworks from across the five-fields of anthropology that explain variations in the expression and human experience of sex, gender, and sexuality, maturation, reproduction, and the life cycle. Also explores how biology shapes culture and how culture shapes biology.

Units: 3

Course Typically Offered:

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.

Units: 3

Course Typically Offered: Spring

ANTH 120 - Race and Ethnic Relations in the U.S.

GE Area/Graduation Requirement: GE Breadth F

(ANTH 120 same as ASAM 120) Examines central concepts, theories, and historical contexts of race and ethnic relations in the United States. Students will become familiar on the formation of racial and ethnic identities, and how they are produced, maintained, and transformed over time and space in American politics and culture.

Units: 3

Course Typically Offered: Fall, Spring

ANTH 123 - Peoples and Cultures of Southeast Asia

GE Area/Graduation Requirement: Multicultural/International

Prerequisite: GE Foundation and Breadth 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.

Units: 3

Course Typically Offered: Fall

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

GE Area/Graduation Requirement: Multicultural/International

Prerequisite: GE Foundation and Breadth D (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

ANTH 126W - Asian Eats: Asian American Foodways

Prerequisite: GE Foundation A2 with a C grade or better.
(ANTH 126W same as ASAM 151W) This is a writing class that explores these various unknown stories of Asians and their foodways. Meets the upper-division writing skills requirement for graduation.

Units: 3

Course Typically Offered: Spring

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.

Units: 3

Course Typically Offered: Fall

ANTH 132 - Anthropology of War and Peace

Offers a survey of the theories and data that anthropologists use to assess the causes and consequences of war and peace. Topics include the political, economic, social, and cultural factors that contribute to war and peace among small scale societies and industrialized societies.

Units: 3

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

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.

Units: 1-6 Repeatable for a maximum of 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.

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.

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.

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.

Units: 3

ANTH 145 - Cultural Resources Management

GE Area/Graduation Requirement: GE Integration ID

Prerequisite: GE Foundation, Breadth D and PLSI 2

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.

Units: 3

Course Typically Offered: Fall

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.

Units: 1-6 Repeatable for a maximum of 12 units.

Course Typically Offered: Fall, Spring

ANTH 161 - Bio/Behavioral Evolution of the Human Species

GE Area/Graduation Requirement: GE Integration IB

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.

Units: 3

Course Typically Offered:

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 165 - Introduction to Forensic Anthropology

Provides students an introduction to the methods of forensic anthropology with assignments based on real world cases and problems designed for them to apply the methods they have learned. (Formerly ANTH-169T)

Units: 3

ANTH 166 - Human Paleopathology

Provides students an introduction to clinical diagnosis of disease from the perspective of forensic anthropology. (Formerly ANTH-169T)

Units: 3

ANTH 167 - Human Evolutionary Theory

Provides students advanced theoretical training in biophysical anthropology; includes the canonical works of evolutionary theory as well as contemporary issues in biophysical anthropology.

Units: 3

ANTH 168 - Research Methods in Human Skeletal Biology

Provides students advanced methods training in skeletal biology and assignments based on real world problems. Students learn the canonical methods used in skeletal biology including the use of computer programs associated with specific methods as well as metric and nonmetric measurement techniques.

Units: 3

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 for a maximum of 12 units.

Course Typically Offered: Fall, Spring

ANTH 175 - Anime, Graphic Novel, K-Pop and Asian Cultural Studies

GE Area/Graduation Requirement: GE Breadth F

(ANTH 175 same as ASAM 175) Analyzing Asian Americans/Asians cultural studies such as Japanese anime, graphic novels, K-pop, films and theme parks.

Units: 3

ANTH 190 - Independent Study

See Academic Placement - Independent Study.
Approved for RP grading.

Units: 1-3 **Repeatable** for a maximum of 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 193I - 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.

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.

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 196 - Seminar: Anthropological Futures

Culminating experience course in which students reflect on their experiences as anthropologists in training and assess the way they can carry their knowledge, skills and competencies forward.

Units: 2

Course Typically Offered: Spring

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** for a maximum of 12 units.

Course Typically Offered: Fall, Spring

Arabic

ARAB 1A - Elementary Arabic A

GE Area/Graduation Requirement: GE Breadth C2

Beginning course in modern Arabic focusing on elementary conversational and written Arabic and cultural traditions of Arabic speaking people.

Units: 4

Course Typically Offered: Fall

ARAB 1B - Elementary Arabic B

GE Area/Graduation Requirement: GE Breadth C2

Prerequisite: ARAB 1A or permission of instructor

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.

Units: 4

Course Typically Offered: Spring

ARAB 2A - Intermediate Modern Arabic 2A

Prerequisite: ARAB 1B or permission 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 contemporary poetry and prose.

Units: 3

Course Typically Offered: Fall

ARAB 2B - Intermediate Modern Arabic 2B

Prerequisite: Good working knowledge of Arabic or permission 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 poetry and prose.

Units: 3

Course Typically Offered: Spring

Armenian

ARM 1A - Elementary Armenian

GE Area/Graduation Requirement: GE Breadth C2

Beginning course in conversational and written Armenian. Not open to students with two or more years of high school Armenian credit.

Units: 4

ARM 1B - Elementary Armenian

GE Area/Graduation Requirement: GE Breadth C2

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.

Units: 4

ARM 2A - Intermediate Armenian

GE Area/Graduation Requirement: GE Breadth C2

Prerequisite: G.E. Foundation A2, ARM 1B or permission of instructor
Review of grammar and emphasis on

conversation and reading.

Units: 3

ARM 2B - Intermediate Armenian

Prerequisite: G.E. Foundation A2, ARM 2A or permission of instructor
Advanced conversation, composition, and reading.

Units: 3

ARM 148 - Masterpieces of Armenian Culture

GE Area/Graduation Requirement: GE Integration IC

Prerequisite: GE Foundation and Breadth 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.

Units: 3

ARM 190 - Independent Study

See Academic Placement -- Independent Study.
Approved for RP grading.

Units: 1-3 **Repeatable** for a maximum of 6 units.

Armenian Studies

ARMS 10 - Introduction to Armenian Studies

GE Area/Graduation Requirement: GE Breadth D2

Prerequisite: GE Foundation A2 for students in English college -readiness Category III and IV
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.

Units: 3

ARMS 20 - The Arts of Armenia

GE Area/Graduation Requirement: GE Breadth C1

An introduction to Armenian architecture, painting, sculpture, ceramics, metal work, and textiles. All lectures are illustrated with slides.

Units: 3

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.

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.

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** for a maximum of 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** for a maximum of 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 1 - Art Forms

GE Area/Graduation Requirement: GE Breadth C1

Slide lecture-discussion. An introduction to art/seeing and appreciating the visual world around us.

Course Fee: \$5

Units: 3

Course Typically Offered: Fall, Spring

ART 13 - Design

GE Area/Graduation Requirement: GE Breadth E

Exploration of basic art concepts through two- and three-dimensional design problems.

Weekly Lab/Activity Hours: 6

Additional Activity: field trips

Units: 3

Course Typically Offered:

ART 14 - 3 Dimensional Design

Prerequisite: ART 13

The course introduces students to the basic elements and principles of 3D design. Students will develop the ability to apply these elements and principles to their own design or artwork within the context of a given project.

Weekly Lab/Activity Hours: 6

Units: 3

Course Typically Offered: Fall, Spring

ART 16 - Introduction to Color Theory

Practical application of color theories, focusing on the interaction and relativity of color and influence of light. Gain basic knowledge trichromatic aspects of color, color principles and practical understanding of color mixing. Explore historical, psychological and cultural aspects of color.

Units: 3

Course Typically Offered: Fall, Spring

ART 20 - Drawing

GE Area/Graduation Requirement: GE Breadth C1

Introductory experiences in drawing using observation, imagination, and expressive means. Fundamentals of form, space, techniques, and composition will be studied.

Weekly Lab/Activity Hours: 6

Units: 3

Course Typically Offered:

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.

Weekly Lab/Activity Hours: 6

Course Fee: \$35

Units: 3

Course Typically Offered: Fall, Spring

ART 24 - Beginning Printmaking

Introduction to the printmaking processes of relief, intaglio, lithography, and screenprinting.

Weekly Lab/Activity Hours: 6

Course Fee: \$75

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.

Weekly Lab/Activity Hours: 6

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.

Weekly Lab/Activity Hours: 6

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.

Weekly Lab/Activity Hours: 6

Course Fee: \$25

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

Prerequisite: 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.

Weekly Lab/Activity Hours: 6

Course Fee: \$35

Units: 3

Course Typically Offered:

ART 40 - Painting

GE Area/Graduation Requirement: GE Breadth C1

Introduction to painting processes through creative experiences and critiques. Emphasis on concepts and processes of contemporary painting.

Weekly Lab/Activity Hours: 6

Units: 3

Course Typically Offered: Fall, Spring

ART 45 - Watercolor

Introduction to techniques in watercolor painting with emphasis on transparencies.

Weekly Lab/Activity Hours: 6

Units: 3

ART 50 - Beginning Sculpture

GE Area/Graduation Requirement: GE Breadth C1

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.

Weekly Lab/Activity Hours: 6

Course Fee: \$25

Units: 3

Course Typically Offered:

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.

Weekly Lab/Activity Hours: 6

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. (UNTRACK)

Weekly Lab/Activity Hours: 6

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.

Weekly Lab/Activity Hours: 6

Additional Activity: field trips

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.

Weekly Lab/Activity Hours: 6

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 **Repeatable** for a maximum of 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

GE Area/Graduation Requirement: GE Integration IC

Prerequisite: GE Foundation and Breadth 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.

Units: 3

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.

Additional Activity: field trips

Course Fee: \$220

Units: 3

Course Typically Offered: 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.

Weekly Lab/Activity Hours: 6

Units: 1-3 **Repeatable** for a maximum of 3 units.

ART 112 - Gallery Techniques

Introduction to museum practices related to exhibition selection, design, and installation techniques. Field trips, lectures, projects, and critiques.

Weekly Lab/Activity Hours: 6

Additional Activity: field trips

Units: 3 **Repeatable** for a maximum of 9 units.

Course Typically Offered: Fall, Spring

ART 113 - Design

Prerequisite: ART 13
Continuation of the exploration of two- and three-dimensional design problems.

Weekly Lab/Activity Hours: 6

Units: 3 **Repeatable** for a maximum of 9 units.

Course Typically Offered: Fall, Spring

ART 116 - Advanced Color Theory

Prerequisite: ART 13 and ART 16
Advanced projects in the application of subtractive and additive color theory.

Weekly Lab/Activity Hours: 6

Units: 3 **Repeatable** for a maximum of 9 units.

Course Typically Offered: Fall, Spring

ART 120 - Intermediate Drawing

Prerequisite: ART 20

Investigation of intermediate concepts through the techniques of the drawing medium.

Weekly Lab/Activity Hours: 6

Units: 3

Course Typically Offered: Fall

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.

Weekly Lab/Activity Hours: 6

Course Fee: \$35

Units: 3 Repeatable for a maximum of 9 units.

Course Typically Offered: Spring

ART 123 - Advanced Drawing

Prerequisite: ART 20 and ART 120

Investigation of advanced approaches and expanded concepts in the drawing medium; development of independent research and personal direction in drawing.

Weekly Lab/Activity Hours: 6

Units: 3 Repeatable for a maximum of 9 units.

Course Typically Offered: Spring

ART 124 - Relief Printmaking

Prerequisite: ART 24 with a C grade or better.

Studio class designed to offer focused instruction in relief printing techniques such as woodcut, reduction, and multiple block printing. Emphasis placed on imagery development. This is an intermediate printmaking course for image development and increased technical prowess.

Weekly Lab/Activity Hours: 6

Course Fee: \$75

Units: 3 Repeatable for a maximum of 9 units.

Course Typically Offered: Fall, Spring

ART 125 - Lithography

Prerequisite: ART 24 with a C grade or better

Studio class designed for focused work in stone and metal plate in lithography. Emphasis placed on imagery development.

Weekly Lab/Activity Hours: 6

Course Fee: \$35

Units: 3 Repeatable for a maximum of 9 units.

Course Typically Offered: Fall

ART 126 - Intaglio

Prerequisite: ART 24 with a C grade or better.

Studio class designed to offer focused work in intaglio printing processes such as etching, drypoint, and aquatint. Multiple plate printing will also be covered. Emphasis placed on imagery development.

Weekly Lab/Activity Hours: 6

Course Fee: \$35

Units: 3 Repeatable for a maximum of 9 units.

Course Typically Offered: Spring

ART 127 - Screenprinting

Prerequisite: ART 24 with a C grade or better.

Investigation into techniques of waterbased screen printing, designed to present the basic techniques and concepts of the medium as a fine art form. Emphasis placed on imagery development.

Weekly Lab/Activity Hours: 6

Course Fee: \$75

Units: 3 Repeatable for a maximum of 9 units.

Course Typically Offered: Fall

ART 128 - Advanced Printmaking

Prerequisite: Three of the following intermediate courses ART 124, ART 125, ART 126, ART 127 with a C grade or better.

Students will engage in the independent investigation of advanced print techniques and issues through the development of a body of original work.

Weekly Lab/Activity Hours: 6

Course Fee: \$75

Units: 3 Repeatable for a maximum of 9 units.

Course Typically Offered: Fall, Spring

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.

Weekly Lab/Activity Hours: 6

Course Fee: \$55

Units: 3 Repeatable for a maximum of 9 units.

Course Typically Offered: Fall, Spring

ART 133 - Alternative Approaches to Digital Imagery

Prerequisite: ART 30 and ART 37 or equivalent

Approaches to non-traditional photography and the manipulated image in digital photography with an emphasis on producing personal imagery.

Weekly Lab/Activity Hours: 6

Course Fee: \$50

Units: 3 Repeatable for a maximum of 6 units.

ART 140 - Intermediate Painting

Prerequisite: ART 40

Individual investigation of advanced aesthetic concepts; continued search into personal direction.

Weekly Lab/Activity Hours: 6

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.

Weekly Lab/Activity Hours: 6

Units: 3 Repeatable for a maximum of 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.

Weekly Lab/Activity Hours: 6

Course 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.

Weekly Lab/Activity Hours: 6

Course Fee: \$25

Units: 3 Repeatable for a maximum of 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.

Weekly Lab/Activity Hours: 6

Course Fee: \$50

Units: 3 Repeatable for a maximum of 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.

Weekly Lab/Activity Hours: 6

Course Fee: \$30

Units: 3 Repeatable for a maximum of 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.

Weekly Lab/Activity Hours: 6

Course Fee: \$30

Units: 3 Repeatable for a maximum of 9 units.

Course Typically Offered: Fall, Spring

ART 165 - Ceramic Glazes

Prerequisite: ART 160 and permission of instructor

Concentrated study in glazes through the empirical methods with some discussion on historical and technical integration of glazes with clay forms.

Weekly Lab/Activity Hours: 6

Course Fee: \$40

Units: 3 Repeatable for a maximum of 9 units.

Course Typically Offered: Fall

ART 166 - Glass Blowing Studio

Prerequisite: 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.

Weekly Lab/Activity Hours: 6

Course Fee: \$50

Units: 3 Repeatable for a maximum of 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.

Weekly Lab/Activity Hours: 6

Units: 3 Repeatable for a maximum of 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.

Weekly Lab/Activity Hours: 6

Additional Activity: field trips

Course Fee: \$15

Units: 3 Repeatable for a maximum of 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.

Additional Activity: field trips

Units: 1-3

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.

Weekly Lab/Activity Hours: 6

Additional Activity: field trips

Course Fee: \$15

Units: 3 Repeatable for a maximum of 9 units.

Course Typically Offered:

ART 181 - 2-D Animation 1

Prerequisite: ART 37 or GD 37 or permission of instructor

An introduction to the process of creating animation in a fine arts context. Students will learn the fundamentals of creating animations with traditional, camera-based and digital processes. (Formerly ART-107)

Weekly Lab/Activity Hours: 6

Units: 3

Course Typically Offered: Fall, Spring

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.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 3

Course Fee: \$25

Units: 3 Repeatable for a maximum of 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.

Weekly Lab/Activity Hours: 6
Course Fee: \$25

Units: 3 Repeatable for a maximum of 12 units.

ART 184 - 2D Animation 2

Prerequisite: ART 101 and ART 181 with a C grade or better or permission of instructor
Building upon ART 181 this course explores intermediate concepts in 2D animation and compositing within a fine arts context. Traditional, camera-based, and digital animation processes are explored.

Weekly Lab/Activity Hours: 6
Units: 3

Course Typically Offered: Spring

ART 184S - 2D Animation 2 SL

Prerequisite: ART 101 and ART 181 or permission of instructor
Building upon ART 181 this course explores intermediate concepts in 2D animation and compositing within a fine arts context. Both traditional and digital animation processes are explored. S sections include a service-learning requirement.

Weekly Lab/Activity Hours: 6
Units: 3

Course Typically Offered: Spring

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 contemporary color photographers.

Weekly Lab/Activity Hours: 6
Course Fee: \$55

Units: 3 Repeatable for a maximum of 9 units.

ART 186 - Intermediate 3D Digital Art - Animation

Prerequisite: ART 80 and ART 181
This course explores 3D digital animation in a fine arts context. The course focuses on 3D keyframe techniques, hierarchies and an introduction to particles.

Weekly Lab/Activity Hours: 6
Units: 3

Course Typically Offered: Spring

ART 187A - Advanced 3D Digital Art - Environment

Prerequisite: ART 101, ART 186 or permission of the instructor
Building upon ART 186 this course explores advanced techniques used in creating complex 3D environments. Both realistic and virtual spaces will be explored with an emphasis on conceptual and historical aspects.

Weekly Lab/Activity Hours: 6
Units: 3

Course Typically Offered: Fall

ART 187B - Advanced 3D Digital Art - Indirect Animation

Prerequisite: ART 101, ART 186 or permission of the instructor
Building upon ART 186 this course explores animation techniques beyond keyframing. Topics include advanced dynamics, advanced particles, external influences, and scripting. There will be a special focus on non-narrative works.

Weekly Lab/Activity Hours: 6
Units: 3

Course Typically Offered: Spring

ART 187C - Advanced 3D Digital Art - Character

Prerequisite: ART 101, ART 186 or permission of the instructor
Advanced concepts in character creation and animation. Techniques explored include character modeling, texturing, rigging, and animation. Pre-rigged characters will be utilized to fully explore animation techniques.

Weekly Lab/Activity Hours: 6
Units: 3

Course Typically Offered: Fall

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.

Weekly Lab/Activity Hours: 6
Units: 3 Repeatable for a maximum of 9 units.

ART 190 - Independent Study

See Academic Placement - Independent Study.
Approved for RP grading.

Course Fee: \$30

Units: 1-3 Repeatable for a maximum of 6 units.

ART 198I - Internship in Art

Prerequisite: 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 Repeatable for a maximum of 6 units.

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 for a maximum of 9 units.

ART 224 - Graduate Printmaking

Prerequisite: ART 128 or portfolio review
Students will engage in the independent investigation of graduate print techniques and issues through the development of a body of original work. This is a graduate printmaking course for image development and increased technical prowess.

Course Fee: \$75

Units: 3 Repeatable for a maximum of 9 units.

Course Typically Offered: Fall, Spring

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** for a maximum of 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** for a maximum of 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.

Weekly Lab/Activity Hours: 6

Units: 3 **Repeatable** for a maximum of 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.

Weekly Lab/Activity Hours: 6

Units: 3 **Repeatable** for a maximum of 9 units.

ART 260 - Seminar in Art History

Prerequisite: 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** for a maximum of 9 units.

ART 290 - Independent Study

See Academic Placement - Independent Study.
Approved for RP grading.

Course Fee: \$30

Units: 1-3 **Repeatable** for a maximum of 9 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 **Repeatable** for a maximum of 6 units.

ART 298C - Project Continuation

Prerequisite: ART 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 thesis and project
Preparation, completion, and submission of an acceptable thesis for the master's degree. Approved for RP grading.

Units: 2-6 **Repeatable** for a maximum of 6 units.

ART 299C - Thesis Continuation

Prerequisite: ART 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 and Design

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.

Additional Activity: field trips

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-Learning and field trips required.

Additional Activity: field trips

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** for a maximum of 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** for a maximum of 9 units.

Art History

ARTH 10 - The Ancient Medieval Worlds

GE Area/Graduation Requirement: GE Breadth C1

An introductory survey of the arts of the ancient and medieval worlds, beginning with the Paleolithic and including Near Eastern, Egyptian, and European (AeGE Arian, Greek,

Roman, medieval) traditions through the mid-14th century.

Units: 3

Course Typically Offered: Fall, Spring

ARTH 11 - The Early Modern World

GE Area/Graduation Requirement: GE Breadth C1

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.

Units: 3

Course Typically Offered: Fall, Spring

ARTH 12 - Asian Art

GE Area/Graduation Requirement: GE Breadth C1

An introductory survey of the arts of Asia from prehistory to the twentieth century, including but not limited to, art traditions of India, China, Japan and Southeast Asia.

Units: 3

Course Typically Offered:

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 **Repeatable** for a maximum of 3 units.

ARTH 120 - Italian Renaissance

Artistic revival of classical antiquity in Italy between 1300-1550.

Units: 3

ARTH 122 - Northern Renaissance

Artistic production (tapestries, manuscript illumination, metalwork, architecture, painting, sculpture, prints, etc.) in the major European centers north of the Alps (particularly France, the Low Countries, the German-speaking lands, and the Baltic region) between 1300-1550.

Units: 3

Course Typically Offered: Fall

ARTH 124 - Southern Baroque

A comprehensive survey of the major artworks produced in Southern Europe (Italy and Spain) from circa 1575 to 1700, within the context of the historical, religious, political, and social changes that transformed early modern Europe.

Units: 3

Course Typically Offered: Spring

ARTH 126 - Northern Baroque

Artistic production in the major northern European centers (the Low Countries, France, the German-speaking lands, England, and the Baltic region) between ca. 1600-1750.

Units: 3

Course Typically Offered: Spring

ARTH 127 - Arts of Colonial Mexico

(ARTH 127 same as CLAS 177) A comprehensive survey of the major artistic and architectural manifestations of colonial Mexico and other territories of the Viceroyalty of New Spain (ca. 1519-1820s). (Formerly ARTH 109T)

Units: 3

Course Typically Offered: Fall

ARTH 128 - Arts of the Colonial Andes

(ARTH 128 same as CLAS 178) A comprehensive survey of the major artistic and architectural manifestations of the colonial Andean region and other territories of the Viceroyalties of Peru (ca. 1532-1820s). (Formerly ARTH 109T)

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 140 - Arts of Southeast Asia

GE Area/Graduation Requirement: GE Integration IC

Prerequisite: GE Foundation and Breadth C. A comprehensive survey of art forms and social roles of artworks in Southeast Asia, such as Thailand, Laos, Cambodia, Vietnam, and the Hmong region, from prehistory to the present, and their relationships to ideologies such as animism and Buddhism.

Units: 3

Course Typically Offered:

ARTH 141 - Arts of East Asia

GE Area/Graduation Requirement: Multicultural/International

Prerequisite: GE Foundation and Breadth D. A comprehensive survey of art forms and social roles of artworks in East Asia, such as China, Korea, and Japan, from prehistory to the present, and their relationships to ideologies, such as ancestor worship, Shamanism, Taoism, Confucianism, and Buddhism. (Formerly ARTH 109T)

Units: 3

Course Typically Offered:

ARTH 142 - Arts of South Asia

GE Area/Graduation Requirement: Multicultural/International

Prerequisite: GE Foundation and Breadth D.
A comprehensive survey of art forms and social roles of artworks in South Asia, such as India, Pakistan, and Sri Lanka, from prehistory to the present, and their relationships to ideologies such as Hinduism, Buddhism, and Islam. (Formerly ARTH 109T)

Units: 3

Course Typically Offered:

ARTH 143 - Kingdoms of Monsoon Asia

GE Area/Graduation Requirement: GE Integration ID

Prerequisite: GE Foundation, Breadth D and PLSI 2
An interdisciplinary exploration of art, archaeology, and history of early kingdoms in southern Asia from the western Pacific to Indian Oceans, connected by the monsoon winds and maritime trans-Asiatic trade.

Units: 3

Course Typically Offered:

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 180 - Methods and Theories of Art History

Prerequisite: Completion of 2 lower-division Art History courses with a B grade or better. It is also strongly recommended that students complete at least 2 upper-division (100-level) Art History courses before enrolling in ARTH 180.
Methods and theories of art historical research and interpretation

Units: 3

Course Typically Offered: Spring

ARTH 190 - Independent Study

See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3 Repeatable for a maximum of 6 units.

Course Typically Offered: Fall, Spring

Asian American Studies

ASAM 7 - Biracial, Multiracial and Adopted Asian Americans

GE Area/Graduation Requirement: GE Breadth D2

Focus on biracial and multiracial Asian Americans with an emphasis on race and ethnicity in the United States. Critically examined Topics: racial categorization, immigration, identity, interracial and interethnic friendships and marriage, racial attitudes, mass media images, residential segregation, educational stratification, and labor market outcomes.

Units: 3

ASAM 8 - Asian American Community Health

GE Area/Graduation Requirement: GE Breadth E

Critically analyze and understand how environmental, social, and cultural factors affect and shape AAPI (Asian American and Pacific Islander) health and wellbeing.

Units: 3

ASAM 10 - Asian American Newspapers and Mass Media

GE Area/Graduation Requirement: GE Breadth F

(ASAM 10 same as MCJ 6) This course equips students with an understanding of the principles and practices of Asian American journalism through examination of Asian American newspapers and mass media. This includes examination of mass media as well as independent newspapers, magazines, zines, and other media products made by Asians and Asian Americans. Includes analysis of representations of Asian American media throughout U.S. cultural history.

Units: 3

Course Typically Offered: Fall

ASAM 15 - Introduction to Asian Americans

GE Area/Graduation Requirement: GE Breadth F

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.

Units: 3

Course Typically Offered: Fall, Spring

ASAM 20 - Asian Americans in Media and Popular Culture

GE Area/Graduation Requirement: GE Breadth F

This introductory course examines how Asian Americans have been imagined and depicted through various mediums of popular culture such as print, film, television, internet, music, etc. Students will become familiar with concepts

relating to popular culture and Asian Americans.

Units: 3

Course Typically Offered: Fall

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 50 - Contemporary Asian American Issues

GE Area/Graduation Requirement: GE Breadth F

The course examines Asian American contemporary issues. It analyzes cultural, political, social, and economic complexities facing Asian Americans.

Units: 3

ASAM 88 - Asian American Critical Thinking

GE Area/Graduation Requirement: GE Foundation A3

Introduction to the process of critical thinking through the lens of race-based theories and selected historical and contemporary discourse of African Americans, [American Indians,] Asian Americans, European Americans and Latinos on race relations and multiculturalism in American society. Examines contemporary social issues through the use of scholarly studies and a range of cultural texts in order to explore the effects of race and racism on the relationship between language and logic, processes and form of reasoning and practices of critical reflection.

Units: 3

Course Typically Offered: Fall, Spring

ASAM 108 - Jain, Hindu, and Asian American Religions

GE Area/Graduation Requirement: GE Breadth F

(PHIL 108 same as ASAM 108)

Interdisciplinary study of Asian American religions, spiritualities, cultural beliefs and practices, as well as their receptions, resistance, and racialized depictions within the U.S. culture, legal systems, and politics; includes Jain, Hindu, Sikh, animist, Buddhist, Taoist, and their sub-traditions.

Units: 3

Course Typically Offered: Fall, Spring

ASAM 110 - Asian American Communities

GE Area/Graduation Requirement: Multicultural/International

Prerequisite: GE Foundation and Breadth 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.

Units: 3

Course Typically Offered: Fall, Spring

ASAM 110S - Asian American Communities Service-Learning

GE Area/Graduation Requirement: Multicultural/International

Prerequisite: GE Foundation and Breadth 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. S sections include a service-learning requirement.

Units: 3

Course Typically Offered: Fall, Spring

ASAM 111 - Asian Pacific Desi American History

GE Area/Graduation Requirement: GE Integration ID

Prerequisite: GE Foundation, Breadth D and PLSI 2
Introduction to Asian American History focuses on the historical contexts of Asian Americans from the mid 19th century to the beginning of the 21st century.

Units: 3

ASAM 120 - Race and Ethnic Relations in the U.S.

GE Area/Graduation Requirement: GE Breadth F

(ANTH 120 same as ASAM 120) Examines central concepts, theories, and historical contexts of race and ethnic relations in the United States. Students will become familiar on the formation of racial and ethnic identities, and how they are produced, maintained, and transformed over time and space in American politics and culture.

Units: 3

Course Typically Offered:

ASAM 121 - Asian American Marriage and Family

GE Area/Graduation Requirement: GE Integration ID

Prerequisite: GE Foundation, Breadth D and PLSI 2
Fundamental description of Asian American marriage and family forms and issues across the life course, guided by historic and contemporary perspectives. It explores family interaction, relationships and gender role expectations.

Units: 3

ASAM 138 - Asian American Women

(ASAM 138 same as WGSS 138) Addresses race, ethnic, and class issues from the vantage point of Asian American women. For Asian American and Southeast Asian communities, the status of women has long been neglected. Yet women play an important role in the family and its economy even as they enter new roles in U.S. society. Helpful to students in sciences and applied fields.

Units: 3

ASAM 140 - Hmong, Laotian and Cambodian American Experience

The Southeast Asian American population in the central San Joaquin Valley is 44,542 and Hmong, Laotians and Cambodians make up 6.18% of the district population. This course focuses on the experience of Hmong, Laotian, and Cambodian refugees and immigrants who

have resettled in the United States since the end of the Vietnam War in 1975. Beyond refugee status and the Vietnam War, students also explore how ethnicity, race, class, gender, education, and generation shapes their communities in Fresno and America.

Units: 3

Course Typically Offered: Spring

ASAM 143 - Asian American Literature

GE Area/Graduation Requirement: GE Breadth F

Prerequisite: ENGL 5A and ENGL 5B or equivalent, and ENGL 20

This course provides a general overview of Asian American writers within U.S. culture and politics. It explores how Asian American writers negotiate a myriad of identity formations that rebut many mainstream racialized depictions and how their writing resists restrictive legal contexts.

Units: 4

Course Typically Offered: Fall, Spring

ASAM 148 - Asian and Asian American Film and Video

GE Area/Graduation Requirement: GE Integration IC

Prerequisite: GE Foundation and Breadth C. Critically looking at Asian American art and visual culture including documentary, film, television, art, paintings, architecture, and monuments.

Units: 3

ASAM 151W - Asian Eats: Asian American Foodways

Prerequisite: GE Foundation A2 with a C grade or better. (ANTH 126W same as ASAM 151W.) This is a writing class that explores these various unknown stories of Asians and their foodways. Meets the upper-division writing skills requirement for graduation.

Units: 3

Course Typically Offered:

ASAM 161W - Asian Americans in the Caring Fields

Prerequisite: GE Foundation A2 with a C grade or better.

Focuses on Asian American contributions to the caring fields in education and health, including teaching, educational administration, social work, and labor in medical professions as doctors and nurses. Includes an examination of Asian American history, migration, and other social and cultural factors that influence the work of Asian Americans in the caring fields. Meets the upper-division writing skills requirement for graduation.

Units: 3

ASAM 175 - Anime, Graphic Novel, K-Pop and Asian Cultural Studies

GE Area/Graduation Requirement: GE Breadth F

(ANTH 175 same as ASAM 175) Analyzing Asian Americans/Asians cultural studies such as Japanese anime, graphic novels, K-pop, films and theme parks.

Units: 3

ASAM 180T - Topics in Asian American Studies

Prerequisite: 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** for a maximum of 6 units.

ASAM 185 - Asian American Politics, Education and Theory

GE Area/Graduation Requirement: GE Breadth F

Focuses on the political, educational, and theoretical development of the field of Asian American Studies. Topics include the formation of the field, its relationship to the ongoing civil rights struggles of Asian American people, and the position of the field in higher education and the wider community.

Units: 3

Course Typically Offered: Fall

ASAM 190 - Independent Study

See Academic Placement -- Independent Study. Approved for SP grading.

Units: 1-3

Course Typically Offered: Fall, Spring

ASAM 195 - Diversity in the United States: Race and Gender Issues

Units: 3

Animal Sciences

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. C or better is required to fulfill prerequisite for Animal Science courses

Units: 3

Course Typically Offered: Fall, Spring

ASCI 2 - Animal Science Orientation

Provides detailed information for students preparing for a career in Animal Science including course requirements, career opportunities, repairing/building a resume. (Formerly ASCI 185T)

Units: 1

Course Typically Offered: Fall

ASCI 11 - Meat Animal Selection and Evaluation

Prerequisite or Corequisite: ASCI 1

Basic factors involved in selection and evaluation of market animals; relationships of live market animal traits to carcass cutability and quality.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Units: 3

Course Typically Offered: Fall, Spring

ASCI 12 - Pet and Companion Animal Management

Biological management of companion animals including dogs, cats and other animals such as rabbits, birds and fish. Course will cover domestication, human-animal bond, breeds,

nutrition, reproduction, genetics, health and welfare. (Formerly ASCI 185T)

Units: 3

ASCI 21 - Beef Cattle Production

Prerequisite or Corequisite: ASCI 1

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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Units: 3

Course Typically Offered: Fall, Spring

ASCI 31 - Swine Production

Prerequisite or Corequisite: ASCI 1

Management principles and practices of purebred and commercial pork production. Nutrition, reproduction, environmental management, health, marketing, selection, and records are studied.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Additional Activity: field trips
Course Fee: \$40

Units: 3

Course Typically Offered: Fall

ASCI 35 - Feeds and Feeding

Prerequisite or Corequisite: ASCI 1

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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Course Fee: \$10

Units: 3

Course Typically Offered: Fall, Spring

ASCI 41 - Sheep Production

Prerequisite or Corequisite: ASCI 1

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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Course Fee: \$50

Units: 3

Course Typically Offered: Spring

ASCI 51 - Horse Production

Prerequisite or Corequisite: ASCI 1

Breeds, selection, and care and feeding of light horses.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Course Fee: \$50

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.

Course Fee: \$30

Units: 3 **Repeatable** for a maximum of 6 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.

Course Fee: \$30

Units: 3 **Repeatable** for a maximum of 6 units.

ASCI 61 - Dairy Cattle Production

Prerequisite or Corequisite: ASCI 1

Principles and practices of milking, feeding, breeding, evaluating, housing, health, behavior, and management of dairy cattle.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Course Fee: \$50

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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Units: 3

ASCI 67 - Animals and Society

GE Area/Graduation Requirement: GE Breadth E

Philosophical, ethical, and scientific investigation of the human/animal bond and the significance of animals in our society. Importance of animals in wellness, rehabilitation/convalence, and stress management. Interdisciplinary investigation of controversies in animal research and human disease.

Units: 3

Course Typically Offered: Fall, Spring

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.

Units: 1

Course Typically Offered: Fall, Spring

ASCI 71 - Meat Science

Prerequisite or Corequisite: ASCI 1

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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3

Course Fee: \$75

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.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 3

Units: 3

Course Typically Offered: Spring

ASCI 83 - Issues and Opportunities in Animal Sciences

Prerequisite: ASCI 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** for a maximum of 4 units.

ASCI 91 - Poultry Production

Prerequisite or Corequisite: ASCI 1

Management principles and practices of commercial poultry production. Nutrition, reproduction, environmental management, health, and processing of broilers and layers.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 3

Course Fee: \$50

Units: 3

Course Typically Offered: Fall

ASCI 94I - 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 **Repeatable** for a maximum of 6 units.

Course Typically Offered: Fall, Spring

ASCI 101 - Environmental Management of Farm Animals

Prerequisite or Corequisite: 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 102 - Animal Welfare and Handling

Prerequisite or Corequisite: ASCI 1

Comprehensive study of animal handling applied to domestic farm animals. Handling methods and techniques will be studied in detail. Special emphasis is given to animal behavior, animal welfare, stockmanship, and injury prevention. (Formerly ASCI 185T)

Units: 3

Course Typically Offered: Fall

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.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 3

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:

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.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 3

Additional Activity: field trips

Course Fee: \$40

Units: 3

Course Typically Offered: Spring

ASCI 135 - Animal Nutrition

Prerequisite: ASCI 35

Principles of nutrition and metabolism; digestive physiology of farm animals.

Units: 3

Course Typically Offered:

ASCI 145 - Anatomy and Physiology of Farm Animals

Prerequisite: BIOL 1A or BIOL 10 or BIOL 12

General structures of farm animals and physiological functions of organs in the animal body.

Weekly Lecture Hours: 3

Weekly Lab/Activity Hours: 3

Course Fee: \$20

Units: 4

Course Typically Offered:

ASCI 146 - Physiology of Lactation

Prerequisite: ASCI 61 and CHEM 3A

Fundamentals of anatomy, physiology, and endocrinology of milk synthesis and secretion; milking machine systems and management; pathological and environmental factors affecting lactation.

Course Fee: \$25

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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Course Fee: \$40

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.

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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
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:

ASCI 156 - Applied Reproductive Management

Prerequisite or Corequisite: ASCI 155

Principles of advanced reproductive management techniques with emphasis on practical applications in the various livestock species.

Weekly Lecture Hours: 3
Weekly Lab/Activity Hours: 3
Course Fee: \$50

Units: 1 Repeatable for a maximum of 2 units.

Course Typically Offered: Spring

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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Additional Activity: field trips
Course Fee: \$50

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.

Units: 2 Repeatable for a maximum of 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:

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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Course Fee: \$75

Units: 3

Course Typically Offered:

ASCI 172 - Meat Technology

Comprehensive study of meat science topics. Emphasis placed on food safety 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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Course Fee: \$100

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

Prerequisite: junior/senior standing
Exploratory work on a suitable agricultural problem in animal science. Approved for RP grading.

Units: 1-4 Repeatable for a maximum of 4 units.

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).

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 3

Additional Activity: field trips

Units: 3 Repeatable for a maximum of 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.

Units: 1-2 Repeatable for a maximum of 4 units.

Course Typically Offered: Fall, Spring

ASCI 183 - Animal Industry Tour

Animal Industry Tours is designed to expose students to various types of operations and organizations that are involved in and affect livestock production and management. Students will hear from industry experts about various segments of the agriculture industry. Students will also attend tours of working operations ranging from production to manufacturing of livestock and their products.

Course Fee: \$75

Units: 3 Repeatable for a maximum of 6 units.

Course Typically Offered: Fall, Spring

ASCI 185T - Topics in Animal Science

Prerequisite: junior standing and permission of instructor

Anatomy, physiology, pathology, nutrition, genetics, livestock management. Topics may require labs.

Units: 1-4 Repeatable for a maximum of 6 units.

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

Course Typically Offered: Fall, Spring

ASCI 190 - Independent Study

See Academic Placement Independent Study. Approved for RP grading.

Units: 1-3

ASCI 191 - Advanced Poultry Production

Prerequisite: ASCI 91
Advanced management principles and practices of commercial poultry production. Advanced knowledge concerning anatomy, physiology, reproduction, nutrition, environmental management, health, and processing of broilers will be sought.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 3

Course Fee: \$50

Units: 3

Course Typically Offered: Fall

ASCI 194I - Agricultural Internship

Prerequisite: junior/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 Repeatable for a maximum of 8 units.

Course Typically Offered: Fall, Spring

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.

Units: 1 Repeatable for a maximum of 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.

Units: 3 Repeatable for a maximum of 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.

Units: 3

ASCI 242 - Environmental Physiology of Domestic Animals

Prerequisite: ASCI 145 and permission of instructor
A study of environmental factors affecting domestic animals under field and controlled conditions.

Units: 3

ASCI 246 - Ruminant Nutrition

Prerequisite: ASCI 135 and CHEM 150
Ruminant physiology of digestion, absorption, and metabolism and nutrients, and the relationship of enzymes and hormones.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 3

Course Fee: \$50

Units: 3

ASCI 247 - Concepts in Non-Ruminant Nutrition

Prerequisite: ASCI 135 or equivalent, graduate standing or permission of instructor
Digestion, absorption, nutrient utilization, and interrelationships in poultry, swine, and other non-ruminants.

Units: 3

ASCI 248 - Meat Science and Muscle Biology

Prerequisite: ASCI 171, graduate standing or permission of instructor
Evaluation of muscle as meat; biological characteristics, growth and development of skeletal muscle, glycogen metabolism, and factors affecting quality of meat.

Units: 3

ASCI 290 - Independent Study

See Academic Placement -- Independent Study.
Approved for RP grading.

Units: 1-3 **Repeatable** for a maximum of 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.

Units: 2-4 **Repeatable** for a maximum of 4 units.

ASCI 299C - Thesis Continuation

Prerequisite: thesis ASCI 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

EHD 155A - Student Teaching in Agriculture Secondary School

Prerequisite: admission to the Single Subject Credential Program
Corequisite: SPED 121
Prerequisite or Corequisite: CI 151, CI 152, and CI 159

Student teaching in middle school under clinical supervision; assignment requires 3 hours per

day, Monday through Friday. CR/NC grading only.

Course Fee: Instructional materials fee, \$15 and CSU Liability Insurance Fee, \$8

Units: 4 **Repeatable** for a maximum of 8 units.

Aerospace Studies

ASP 1A - Heritage and Values

A survey course designed to introduce students to the United States Air and Space Forces and to provide an overview of the basic characteristics, missions, and organization of the Air and Space Forces.

Units: 1

Course Typically Offered: Fall

ASP 1B - Heritage and Values

A survey course designed to introduce students to the United States Air and Space Forces and to provide an overview of the basic characteristics, missions, and organization of the Air and Space Forces.

Units: 1

Course Typically Offered: Spring

ASP 2A - Team and Leadership Fundamentals

Provides a fundamental understanding of both leadership and team building. The lessons and course flow are designed to prepare students for field training and leadership positions in the detachment.

Units: 1

Course Typically Offered: Fall

ASP 2B - Team and Leadership Fundamentals

Provides a fundamental understanding of both leadership and team building. The lessons and course flow are designed to prepare students for field training and leadership positions in the detachment.

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** for a maximum of 6 units.

Course Typically Offered: Fall, Spring

ASP 103C - Air Force ROTC Field Training

Prerequisite: ASP 1A, ASP 1B, ASP 2A and ASP 2B with a C grade or better.
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 - Leading People and Effective Communication

Prerequisite: ASP 2A with a C grade or better.
Utilizes student's field training experience to take a more in-depth look at leadership. Special emphasis is placed on enhancing communication skills, and why that is important as a leader. Students have an opportunity to try out these leadership and management techniques in a supervised environment as juniors and seniors.

Units: 3

Course Typically Offered: Fall

ASP 104B - Leading People and Effective Communication

Prerequisite: ASP 2A with a C grade or better.
Utilizes student's field training experience to take a more in-depth look at leadership. Special emphasis is placed on enhancing communication skills, and why that is important as a leader. Students have an opportunity to try out these leadership and management

techniques in a supervised environment as juniors and seniors.

Units: 3

Course Typically Offered: Spring

ASP 105A - National Security/Commissioning Preparation

Prerequisite: ASP 104A and ASP 104B. ASP 105A is not open to students with credit in ASP 105AW.

Designed for college seniors and gives them the foundation to understand their role as military officers and how they are directly tied to our National Security Strategy. It is an overview of the complex social and political issues facing the military profession and requires a measure of sophistication commensurate with the senior college level.

Units: 3

Course Typically Offered: Fall

ASP 105AW - National Security/Commissioning Preparation

Prerequisite: ASP 104A, ASP 104B, and GE Foundation A2 with a C grade or better. Not open to students with credit in ASP 105A or ASP 105B

Designed for college seniors and gives them the foundation to understand their role as military officers and how they are directly tied to our National Security Strategy. It is an overview of the complex social and political issues facing the military profession and requires a measure of sophistication commensurate with the senior college level. Meets the upper-division writing skills requirement for graduation.

Units: 3

Course Typically Offered:

ASP 105B - National Security/Commissioning Preparation

Prerequisite: ASP 104A and ASP 104B. ASP 105B is not open to students with credit in ASP 105BW

Designed for college seniors and gives them the foundation to understand their role as military officers and how they are directly tied to our National Security Strategy. It is an overview of the complex social and political issues facing the military profession and requires a measure of sophistication commensurate with the senior

college level.

Units: 3 **Repeatable** for a maximum of 6 units.

Course Typically Offered:

ASP 105BW - National Security/Commissioning Preparation

Prerequisite: ASP 104A, ASP 104B, and GE Foundation A2 with a C grade or better. Not open to students with credit in ASP 105A or ASP 105B

Designed for college seniors and gives them the foundation to understand their role as military officers and how they are directly tied to our National Security Strategy. It is an overview of the complex social and political issues facing the military profession and requires a measure of sophistication commensurate with the senior college level. Meets the upper-division writing skills requirement for graduation.

Units: 3

Course Typically Offered:

ASP 113 - Leadership Laboratory

Prerequisite: ASP 2A and ASP 2B with a C grade or better 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** for a maximum of 6 units.

Course Typically Offered: Fall, Spring

Athletic Training

AT 202 - Foundations of Athletic Training

Prerequisite: Admission to the Master of Science in Athletic Training Program. Fundamental principles for the prevention, evaluation, and care of common athletic injuries will be discussed. Techniques in taping and rehabilitation of injuries are practiced.

Weekly Lab/Activity Hours: 3

Units: 1

AT 212 - Anatomy, Evaluation, and Rehabilitation of the Lower Extremity

Prerequisite: Admission to the Master of Science in Athletic Training Program. Concepts and clinical application of anatomy, evaluation, and rehabilitation of musculoskeletal impairments of the lower extremity.

Weekly Lecture Hours: 5

Weekly Lab/Activity Hours: 9

Units: 8

AT 214 - Therapeutic Modalities

Prerequisite: admission to the Master of Science in Athletic Training Program. Concepts and clinical application of thermotherapies, electrical modalities, and manual therapy techniques.

Weekly Lecture Hours: 1

Weekly Lab/Activity Hours: 3

Units: 2

Course Typically Offered: Fall

AT 216 - Research Methods in Athletic Training I

Prerequisite: admission to the Master of Science in Athletic Training Program. This course will provide an introduction to concepts of research and clinical statistics for athletic trainers, including development of a clinical question, implementing the five-step process of evidence-based practice, and critical appraisal of the evidence.

Units: 2

AT 222 - Anatomy, Evaluation, and Rehabilitation of the Upper Extremity

Prerequisite: AT 202, AT 212, AT 216, and AT 251

Concepts and clinical application of anatomy, evaluation, and rehabilitation of musculoskeletal impairments of the upper extremity.

Weekly Lecture Hours: 3

Weekly Lab/Activity Hours: 9

Units: 6

AT 224 - General Medical Conditions and Pharmacology

Prerequisite: AT 202, AT 212, AT 216, and AT 251

Fundamental principles for the prevention,

evaluation, care, and pharmacological treatment of general medical conditions will be discussed.

Weekly Lecture Hours: 1
Weekly Lab/Activity Hours: 3
Units: 2

AT 226 - Research Methods in Athletic Training II

Prerequisite: AT 202, AT 212 , AT 216, and AT 251

A continuation of AT 216: Research Methods in Athletic Training I. This course will build on concepts of research, clinical statistics, critical appraisal, and evidence-based practice for athletic trainers.

Units: 2

AT 228 - Policy and Procedures in Athletic Training

Prerequisite: AT 202, AT 212 , AT 216, and AT 251

Sports medicine ethics, legal considerations, and policies and procedures following local, state, and national guidelines.

Units: 2

AT 232 - Anatomy, Evaluation, and Treatment of the Spine

Prerequisite: AT 222, AT 224, AT 226, AT 228, and AT 252

Concepts and clinical application of anatomy, evaluation, therapeutic modalities, and rehabilitation of musculoskeletal impairments of the head, face, and spine.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Units: 3

AT 234 - Immediate and Emergency Care

Prerequisite: AT 222, AT 224, AT 226, AT 228, and AT 252

The prevention, recognition, evaluation, acute care, treatment, and return to participation for catastrophic injuries in physical activity.

Weekly Lecture Hours: 1
Weekly Lab/Activity Hours: 3
Units: 2

AT 238 - Board of Certification Exam Preparation

Prerequisite: AT 222, AT 224, AT 226, AT 228, and AT 252

This course will help athletic training students prepare for the Board of Certification exam. This course is designed to review prominent theory, topics, and techniques related to athletic training practice: identify knowledge strengths/deficiencies and formulate an individualized study guide. CR/NC grading only.

Units: 1

AT 242 - Prevention and Wellness

Prerequisite: AT 232, AT 234, AT 238, AT 253, and AT 296

Theory and practical tools employed in sports medicine to screen, assess and prevent athletic injuries are reviewed.

Weekly Lecture Hours: 1
Weekly Lab/Activity Hours: 3
Units: 2

AT 244 - Psychological Aspects of Injury and Rehabilitation in Athletic Training

Prerequisite: AT 232, AT 234, AT 238, AT 253, and AT 296

An 8-week course that examines psychosocial considerations in sport following injury, throughout the subsequent rehabilitation, and return to participation. Students will learn the importance of incorporating mental skills post-injury to increase motivation, performance, and confidence during the return to participation process.

Units: 2

AT 248 - Professional Practice in Athletic Training

Prerequisite: AT 232, AT 234, AT 238, AT 253, and AT 296

Management of an athletic training facility including employee communication, human resources, professional ethics, and continuing education.

Units: 2

AT 251 - Clinical Practicum I

Prerequisite: Admission to the Master of Science in Athletic Training Program
This 16-week practicum will allow students to apply academic knowledge and further develop clinical skills under direct supervision from clinical preceptors. Includes a two-week

immersive clinical experience and a 16-week integrated clinical experience.

Units: 3

AT 252 - Clinical Practicum II

Prerequisite: AT 202 and AT 251

This 16-week practicum will allow students to apply academic knowledge and further develop clinical skills under direct supervision from clinical preceptors.

Units: 3

AT 253 - Clinical Practicum III

Prerequisite: AT 222 , AT 226, AT 228, and AT 252

Immersive practicum will allow students to apply academic knowledge and further develop clinical skills under direct supervision from clinical preceptors. Includes two-week and eight-week immersive clinical experience. CR/NC grading only.

Units: 6

AT 254 - Clinical Practicum IV

Prerequisite: AT 232, AT 234, AT 238, AT 253, and AT 296

This eight-week immersive practicum will allow students to apply academic knowledge and further develop clinical skills under direct supervision from clinical preceptors. CR/NC grading only.

Units: 6

AT 296 - Current Concepts in Athletic Training I

Prerequisite: AT 222, AT 224, AT 226, AT 228, and AT 252

A seminar course designed to focus on current topics in athletic training and sports medicine.

Units: 3

AT 297 - Current Concepts in Athletic Training II

Prerequisite: AT 232, AT 234, AT 238, AT 253, and AT 296

A seminar course designed to focus on current topics in athletic training and sports medicine.

Units: 3

AT 298 - Project

Preparation, completion, submission, and/or demonstration of an original project. Approved for RP grading.

Units: 3-6 **Repeatable** for a maximum of 6 units.

AT 298C - Project Continuation

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

AT 299 - Thesis

Preparation, completion, and submission of an acceptable thesis for the master's degree. Approved for RP grading.

Units: 3-6 **Repeatable** for a maximum of 6 units.

AT 299C - Thesis Continuation

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

Athletics

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 - 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

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

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

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

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

ATHL 100 - Cond of Athl/MTennis

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

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

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

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

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

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

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

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

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

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

ATHL 100 - Cond of Athl/Women Water Polo

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

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

ATHL 100 - Conditioning of Athletes

Corequisite: 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

ATHL 100 - Conditioning of Athletes/Wrestling

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

ATHL 176 - Baseball

Men only.

Units: 2

ATHL 177 - Men's Basketball

Men only.

Units: 2

ATHL 178 - Women's Basketball

Women only.

Units: 2

ATHL 180 - Cross Country

Units: 2

ATHL 181 - Equestrian

Women only. (See ATHL 181)

Units: 2

ATHL 182 - Football

Units: 2

ATHL 183 - Men's Golf

Men only.

Units: 2

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

ATHL 185 - Soccer

Women only.

Units: 2

ATHL 187 - Softball

Women only.

Units: 2

ATHL 189 - Swimming and Diving

Women only.

Units: 2

ATHL 191 - Men's Tennis

Men only.

Units: 2

ATHL 192 - Women's Tennis

Women only.

Units: 2

ATHL 193 - Track and Field

Units: 2

ATHL 194 - Women Lacrosse

Women Only.

Units: 2

ATHL 196 - Volleyball

Women only.

Units: 2

ATHL 197 - Women's Water Polo

Units: 2

ATHL 199 - Wrestling

Men only.

Units: 2

Business Administration

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: Spring

BA 104 - Global Business

GE Area/Graduation Requirement:
Multicultural/International

Prerequisite: GE Foundation and Breadth 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.

Units: 3

Course Typically Offered:

BA 105W - Business Communication

Prerequisite: GE Foundation A2 with a C grade or better.
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 152E - Law for Entrepreneurs

Prerequisite: BA 18 or permission of the instructor
Special legal problems of entrepreneurs. 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.

Units: 3

Course Typically Offered: Spring

BA 154 - Real Estate Law

Prerequisite: BA 18
Meets California statutory course requirement for real estate broker's license. Legal aspects of acquisition and ownership of real estate; conveyances, mortgages, evidences of title; planning and zoning.

Units: 3

Course Typically Offered: Spring

BA 162 - Work Integrated Learning

Prerequisite: Permission of Instructor.
Students participate in experiential learning activities that will enhance communication, time-management, and professionalism while strengthening effective work habits. Individualized professional development assignments to help prepare them for post-graduation recruitment success in their chosen career path. Students must currently be working in a career-level position to be considered for credit in this course. Priority given to students within 2 semesters of graduation. CR/NC grading only. (Formerly BA 189T)

Units: 3

Course Typically Offered: Fall, 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: BA 174 and FIN 120 with a C grade or better.
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: BA 174 with a C grade or better.
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

Prerequisite: BA 18 and 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, contract 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** for a maximum of 9 units.

BA 190 - Independent Study

See Academic Placement -- Independent Study. Approved for RP grading.

Units: 1-3 **Repeatable** for a maximum of 6 units.

Course Typically Offered: Fall, Spring

BA 195I - Internship

Prerequisite: permission of internship coordinator

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. Requires 150 hours of work at a pre-qualified, academically-related work station (business, government or nonprofit agency).

Units: 3 **Repeatable** for a maximum of 6 units.

Course Typically Offered:

Biology

BIOL 1A - Introductory Biology

GE Area/Graduation Requirement: GE Breadth B2

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.

Weekly Lecture Hours: 3

Weekly Lab/Activity Hours: 3

Course Fee: course fee, \$15

Units: 4

Course Typically Offered:

BIOL 1B - Introductory Biology

Prerequisite: BIOL 1A with a C grade or better.

Corequisite: BIOL 1BL

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.

Units: 3

Course Typically Offered:

BIOL 1BL - Introductory Biology Laboratory

Corequisite: BIOL 1B

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.

Weekly Lecture Hours: 3

Weekly Lab/Activity Hours: 3

Course Fee: \$15

Units: 1

Course Typically Offered: Fall, Spring

BIOL 10 - Life Science

GE Area/Graduation Requirement: GE Breadth B2

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.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Course Fee: \$5

Units: 3

Course Typically Offered:

BIOL 10H - Life Science

GE Area/Graduation Requirement: GE Breadth B2

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 and evolutionary processes. Examines biology and its relationship to human affairs.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Units: 3

BIOL 11 - Plant Biology

GE Area/Graduation Requirement: GE Breadth B2

Not open to students with credit in BIOL 1B. Structure, function, and development of plants.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Course Fee: course fee, \$15

Units: 3

Course Typically Offered: Fall, Spring

BIOL 12 - Animal Biology

GE Area/Graduation Requirement: GE Breadth B2

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.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Course Fee: \$15

Units: 3

Course Typically Offered: Fall, Spring

BIOL 20 - Introductory Microbiology

Prerequisite: CHEM 1A and CHEM 1AL or CHEM 3A

Not open to students with credit in BIOL 120. Introduction to microbiology; principles and selected applications.

Weekly Lecture Hours: 3

Weekly Lab/Activity Hours: 3

Course Fee: \$25

Units: 4

Course Typically Offered: Fall, Spring

BIOL 20N - Introductory Microbiology

Prerequisite: CHEM 1A and CHEM 1AL or CHEM 3A

Not open to students with credit in BIOL 120. Introduction to microbiology; principles and selected applications. Reserved for nursing major only.

Weekly Lecture Hours: 3

Weekly Lab/Activity Hours: 3

Course Fee: \$25

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.

Weekly Lecture Hours: 4

Weekly Lab/Activity Hours: 3

Course Fee: \$25

Units: 5

Course Typically Offered: Fall, Spring

BIOL 67A - Human Anatomy & Physiology I

Prerequisite: BIOL 20 with a C grade or better, or BIOL 1A and (CHEM 1A and CHEM 1AL or CHEM 3A) with a C grade or better, only if allowed by major.

Not open to students with credit in BIOL 33, BIOL 64, or BIOL 65. Histology, cellular communication, embryological development, and the anatomy and physiology of the following human systems: integumentary, skeletal, muscular, nervous, and special senses.

Weekly Lecture Hours: 3

Weekly Lab/Activity Hours: 3

Course Fee: \$25

Units: 4

Course Typically Offered:

BIOL 67B - Human Anatomy and Physiology II

Prerequisite: BIOL 67A with a C grade or better.

Not open to students with credit in BIOL 33, BIOL 64, or BIOL 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.

Weekly Lecture Hours: 3

Weekly Lab/Activity Hours: 3

Units: 4

Course Typically Offered: Fall, Spring

BIOL 101 - General Ecology

Prerequisite: BIOL 1A, BIOL 1B and BIOL 1BL; PSYCH 42, MATH 101, MATH 102 or EES 178 (EES majors only). MATH 70 or equivalent is recommended. Required of all Biology majors.

The structure, function, organization, and regulation of populations, communities, and ecosystems. The role of evolution in environmental relationships.

Units: 3

Course Typically Offered: Fall, Spring

BIOL 101L - General Ecology Lab

Prerequisite or Corequisite: BIOL 101

Laboratory focusing on ecological concepts, relevant published studies, simulation tools, and hands-on work with living material and investigating their responses to variation in their environments.

Course Fee: \$15

Units: 1

Course Typically Offered: Fall, Spring

BIOL 102 - Genetics

Prerequisite: BIOL 1A, BIOL 1B and BIOL 1BL

Prerequisite or Corequisite: CHEM 8 or CHEM 128A

Required of all biology majors. Fundamentals of inheritance, including an introduction to the underlying molecular mechanisms.

Units: 3

Course Typically Offered:

BIOL 103 - Cellular Biology

Prerequisite: BIOL 102 and 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.

Units: 3

Course Typically Offered:

BIOL 104 - Genetics and Cell Biology Lab

Prerequisite: BIOL 102

Prerequisite or Corequisite: BIOL 103

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.

Weekly Lecture Hours: 3

Weekly Lab/Activity Hours: 3

Course Fee: \$20

Units: 1

Course Typically Offered: Fall, Spring

BIOL 105 - Evolution

Prerequisite: senior standing or permission of instructor; BIOL 101 and BIOL 102 required of all biology majors.

Evolutionary processes and patterns. Satisfies the senior major requirement for the B.S. in Biology.

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.

Units: 3

BIOL 111H - Honors Experimental Design & Writing

Prerequisite: Admission to the biology honors program or permission of instructor
Experimental Design for Biologists offers an overview of the philosophy of science and the scientific method, and helps students establish

the framework for their experimental projects. (Formerly BIOL 189T.)

Units: 1

Course Typically Offered: Spring

BIOL 112H - Honors Peer Instruction

Prerequisite: Admission to the biology honors program or permission of instructor
The development of improved oral communication, reinforcement of foundational biology knowledge, and development of teaching skills through service as a peer-instructor in biology. (Formerly BIOL 189T.)

Units: 1

Course Typically Offered: Fall

BIOL 113H - Honors Colloquium

Prerequisite: Admission to the biology honors program, BIOL 1A and BIOL 1B, or permission of instructor
Students explore selected topics in biology through engagement with speakers. Speakers from within and outside the department and university will speak on topics in their specialty. The students will gain familiarity to current ideas and research in biology and gain experience evaluating and critiquing scientific research presentations and articles. (Formerly BIOL 189T.)

Units: 1

Course Typically Offered: Spring

BIOL 118W - Science Communication Beyond the Discipline

Prerequisite: To be taken after completing 60 units, GE Foundation with a C grade or better, and Breadth B.
Trains emerging scientists in communicating science to share scientific findings, to increase public appreciation and understanding of science, to influence opinion and policy decisions, to share multiple perspectives about science, and to share scientists' excitement about their science. Assignments create real-world products and opportunities to participate in real-world science communication. Meets the upper-division writing skills requirement for graduation.

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.

Units: 3

BIOL 120 - Microbiology

Prerequisite: BIOL 1A, BIOL 1B and BIOL 1BL; CHEM 8 or CHEM 128A
Emphasis on prokaryotes (bacteria); microbial physiology, genetics, ecology, classification, and identification; applications of microbiology. Prerequisite to most upper-division microbiology courses.

Units: 3

Course Typically Offered:

BIOL 120L - Microbiology Lab

Prerequisite or Corequisite: BIOL 120

Laboratory focusing on hands-on work with microorganisms. Isolation, characterization, and identification of microorganisms will be emphasized. (Formerly BIOL 120)

Course Fee: \$25

Units: 1

Course Typically Offered: Fall, Spring

BIOL 121 - Medical Microbiology

Prerequisite: BIOL 120 and BIOL 120L. BIOL 157 recommended.
The role of microorganisms in causing infection and disease; strategies for diagnosing and treating infections.

Units: 3

Course Typically Offered: Fall

BIOL 122 - Nonvascular Plants

Prerequisite: BIOL 1A, BIOL 1B and BIOL 1BL or permission of instructor
Comparative structure and phylogeny of the fungi, algae, mosses, and liverworts.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Course Fee: \$20

Units: 3

BIOL 123 - Phycology

Prerequisite: BIOL 1A, BIOL 1B and BIOL 1BL or permission of instructor
Morphology, cytology, ecology, physiology, economic importance, and cultivation of the algae.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 6
Course Fee: \$30

Units: 4

BIOL 124 - Vascular Plants

Prerequisite: BIOL 1A, BIOL 1B and BIOL 1BL 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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 6
Units: 4

BIOL 125 - Plant Taxonomy

Prerequisite: BIOL 1A, BIOL 1B and BIOL 1BL or permission of instructor
Principles of plant classification; local flora.

Weekly Lecture Hours: 1
Weekly Lab/Activity Hours: 6
Additional Activity: field trips
Course Fee: \$35

Units: 4

BIOL 130 - Invertebrate Zoology

Prerequisite: BIOL 1A, BIOL 1B and BIOL 1BL.
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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 6
Additional Activity: field trips
Course Fee: \$25

Units: 4

Course Typically Offered: Fall

BIOL 131 - Parasitology

Prerequisite: BIOL 1A, BIOL 1B, BIOL 1BL; CHEM 1A and CHEM 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 sampling techniques, taxonomy, investigation of biological processes.

Weekly Lecture Hours: 3
Weekly Lab/Activity Hours: 3
Course Fee: \$20

Units: 4

Course Typically Offered: Spring

BIOL 132 - General Entomology

Prerequisite: BIOL 1A, BIOL 1B and BIOL 1BL

Anatomy, physiology, life history, and classification of insects and other arthropods.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Course Fee: \$35

Units: 3

Course Typically Offered: Spring

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, and mountain environments.

Weekly Lecture Hours: 3
Weekly Lab/Activity Hours: 3
Additional Activity: field trips
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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
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.

Weekly Lecture Hours: 3
Weekly Lab/Activity Hours: 3
Additional Activity: field trips
Course Fee: \$25

Units: 4

BIOL 136 - Mammalogy

Prerequisite: BIOL 101
Ecology, evolution, and diversity of the mammals of the world.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Units: 3

BIOL 137 - Ecology and Evolution of Birds

Prerequisite: BIOL 1B and BIOL 1BL. BIOL 101 is recommended.

The goal of the class is to engage students in the field of ornithology. In lectures we will investigate the role of bird evolution and ecology on avian morphology, phylogeny, physiology, and behavior. Labs and field trips will provide hands-on experience with bird morphology, identification (visual and auditory), behavior, and data analyses. (Formerly BIOL 189T)

Weekly Lecture Hours: 3
Weekly Lab/Activity Hours: 3
Units: 4

BIOL 140 - Plant Anatomy

Prerequisite: BIOL 1A, BIOL 1B and BIOL 1BL or permission of instructor
Structure and development of flowering plants at the cellular and tissue levels.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Course Fee: \$20

Units: 3

BIOL 141 - Histology

Prerequisite: BIOL 103
Identification and study of vertebrate cells, tissues, and organs.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 6
Units: 4

BIOL 142 - Vertebrate Embryology

Prerequisite: BIOL 1A, BIOL 1B and BIOL 1BL.
Morphogenesis of vertebrates from gamete formation through organogenesis, including physiological and experimental aspects of development. Laboratory emphasis on frog, chick, and pig.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 6
Units: 4

BIOL 143 - Comparative Vertebrate Morphology

Prerequisite: BIOL 1A, BIOL 1B and BIOL 1BL.

Comparative structure of vertebrate organ systems; laboratory study of representative vertebrates.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 6
Course Fee: \$30

Units: 4

Course Typically Offered: Spring

BIOL 144 - Neuroanatomy

Prerequisite: BIOL 33 or BIOL 64 or BIOL 65
Macroscopic and microscopic study of the structure and functional relationships of the human nervous system.

Weekly Lecture Hours: 3
Weekly Lab/Activity Hours: 3
Course Fee: \$25

Units: 4

BIOL 150 - Molecular Biology

Prerequisite: BIOL 102, BIOL 103 and 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.

Units: 3

Course Typically Offered: Spring

BIOL 151 - Bioinformatics

Prerequisite: BIOL 102
Prerequisite or Corequisite: BIOL 150, recommended

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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Course Fee: \$10

Units: 3

Course Typically Offered:

BIOL 152 - Experimental Molecular Genetics

Prerequisite: BIOL 102 and BIOL 103
The nature of genetic information, its mutation, transfer, and recombination in cells.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 6
Course Fee: \$30

Units: 4

BIOL 153 - Microbial Genetics

Prerequisite: BIOL 102, BIOL 120 and BIOL 120L or permission of instructor
Genetic variation, gene transfer, and regulation of gene expression in model microbial systems and medically and industrially important microbes.

Weekly Lecture Hours: 3
Weekly Lab/Activity Hours: 3
Course Fee: \$35

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.

Weekly Lecture Hours: 3
Weekly Lab/Activity Hours: 3
Course Fee: \$20

Units: 4

Course Typically Offered: Spring

BIOL 156 - Plant Growth and Development

Prerequisite: 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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Course Fee: \$20

Units: 3

Course Typically Offered: Fall

BIOL 157 - Immunology

Prerequisite: BIOL 103
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.

Units: 3

Course Typically Offered: Fall

BIOL 157L - Immunology Laboratory

Prerequisite: BIOL 103
Prerequisite or Corequisite: BIOL 157

Experimental illustration of immune response; classical and contemporary immunology techniques; interpretation and presentation of experimental outcomes.

Weekly Lab/Activity Hours: 6
Course Fee: \$30

Units: 3

BIOL 158 - The Biology of Cancer

Prerequisite: BIOL 103 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 and BIOL 120L
Structure, function, energy metabolism, growth, and regulatory mechanisms of microorganisms.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 6
Course Fee: \$25

Units: 4

BIOL 161 - Plant Physiology

Prerequisite: BIOL 1A; BIOL 1B and BIOL 1BL or BIOL 11; CHEM 1A and CHEM 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.

Weekly Lecture Hours: 3
Weekly Lab/Activity Hours: 3
Course Fee: \$20

Units: 4

Course Typically Offered: Fall, Spring

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.

Units: 3

Course Typically Offered: Fall, Spring

BIOL 162L - Comparative Animal Physiology Lab

Prerequisite: BIOL 102 and BIOL 103
Prerequisite or Corequisite: BIOL 162

Comparative experimental approach to understanding how animals adapt to different environmental challenges and investigations into physiological processes.

Weekly Lecture Hours: 3
Weekly Lab/Activity Hours: 3
Course Fee: \$20

Units: 1

Course Typically Offered: Fall, Spring

BIOL 163 - Advanced Human Physiology

Prerequisite: 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.

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.

Units: 3

Course Typically Offered: Spring

BIOL 166 - Neurophysiology

Prerequisite: BIOL 33 or BIOL 67A or BIOL 67B or BIOL 103 or BIOL 162

Function of the human nervous system with emphasis on molecular mechanisms of electrical and chemical signaling.

Units: 3

Course Typically Offered: Fall

BIOL 169L - Physiology Laboratory

Prerequisite: BIOL 102 and BIOL 103

May be paired with any Line 2 (Physiology) lecture course under Other Major Requirements in order to fulfill the Biology B.S. degree requirement of completing a physiology course with a laboratory. This course offers students the opportunity to conduct original research in physiology, with an emphasis on experimental research in animal physiology, in order to train students in experimental design and scientific method. (Formerly BIOL 189T.)

Units: 1

Course Typically Offered: Fall, Spring

BIOL 170 - Microbial Ecology

Prerequisite: BIOL 101, BIOL 120 and BIOL 120L

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).

Weekly Lecture Hours: 3

Weekly Lab/Activity Hours: 3

Additional Activity: field trips

Course Fee: \$30

Units: 4

Course Typically Offered:

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.

Weekly Lecture Hours: 3

Weekly Lab/Activity Hours: 3

Additional Activity: field trips

Course Fee: \$20

Units: 4

Course Typically Offered: Fall

BIOL 172 - 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.

Weekly Lecture Hours: 3

Weekly Lab/Activity Hours: 3

Additional Activity: field trips

Course Fee: \$25

Units: 4

Course Typically Offered:

BIOL 173 - Marine Biology

Prerequisite: BIOL 1B and BIOL 1BL 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.

Additional Activity: field trips

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.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 3

Units: 3

Course Typically Offered: Fall

BIOL 175 - Case Studies in Ecology

Prerequisite: 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.

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/mark, radio telemetry, habitat assessment, behavioral observation and experiments, and design and logistics of field experiments.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 3

Course Fee: \$25

Units: 3

BIOL 177 - Conservation Biology

Prerequisite: BIOL 1A, BIOL 1B, and BIOL 1BL

Topics include the development and application of theory, principles, factual knowledge, and techniques of population ecology, genetics, evolutionary biology, community ecology, landscape ecology, biogeography, and systematics to the conservation of biodiversity. (Formerly BIOL 189T)

Weekly Lecture Hours: 3

Weekly Lab/Activity Hours: 3

Course Fee: \$35

Units: 4

Course Typically Offered: Spring

BIOL 178 - Systematic Biology and Macroevolution

Prerequisite: BIOL 1A, BIOL 1B and BIOL 1BL. BIOL 102 and BIOL 103 are recommended.

Topics include modern theory and methods of phylogenetic analysis applied to the study of biodiversity and evolution.

Weekly Lecture Hours: 3

Weekly Lab/Activity Hours: 3

Units: 4

Course Typically Offered: Fall

BIOL 179 - Population Biology

Prerequisite: BIOL 1A, BIOL 1B and BIOL 1BL

Integrative approach to ecology and evolution at the unit of the biological population. We will use the primary literature to investigate how populations are defined and used in theoretical and applied studies.

Units: 3

Course Typically Offered: Fall, Spring

BIOL 180 - Biology Colloquium

Prerequisite: BIOL 1A, BIOL 1B and BIOL 1BL

The aim of the Biology Colloquium is to expose students to selected topics in biology. Speakers from within and outside the department and university will speak on topics in their specialty. The course assumes basic knowledge of biology.

Units: 1 **Repeatable** for a maximum of 2 units.

Course Typically Offered: Fall, Spring

BIOL 181 - Seminar in Cellular and Molecular Biology

Prerequisite or Corequisite: BIOL 150 or permission of instructor

Trends and breakthroughs in cellular and molecular biology accessed through the primary literature.

Weekly Lecture Hours: 1

Units: 1

Course Typically Offered: Spring

BIOL 182 - Molecular Ecology

Prerequisite: BIOL 101

An investigation of molecular tools and theory used to explain variation in ecological processes. Lecture will cover areas of molecular ecology such as (but not limited to) identification (e.g. species, individuals, and sex), behavior, population, adaptive variation, immune function, disease, phylogeography, conservation, microbes, metagenomes, and GMOs. (Formerly BIOL 189T)

Weekly Lecture Hours: 3

Weekly Lab/Activity Hours: 3

Units: 4

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** for a maximum of 6 units.

BIOL 190 - Independent Study

See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3 **Repeatable** for a maximum of 6 units.

Course Typically Offered: Fall, Spring

BIOL 199H - Honors Thesis in Biology

Prerequisite: BIOL 111H

Preparation, completion, and submission of an acceptable thesis for the honors in biology designation.

Units: 3

Course Typically Offered: Fall, Spring

BIOL 204 - Biology of Speciation

Prerequisite: BIOL 102, BIOL 103 and BIOL 105

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

Prerequisite: 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

Prerequisite: BIOL 130 and 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.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 3

Units: 3

BIOL 241A - Molecular Biology I

Prerequisite: BIOL 102 and BIOL 103; CHEM 150 or CHEM 155A or permission of instructor (BIOL 241A same as CHEM 241A)

Fundamental topics in molecular biology are addressed, including protein and nucleic acid

structure, DNA replication, transcription, translation, generic material exchange mechanisms, genome structure, recombination and transposition. A combination of lectures and research paper discussion are used in this course.

Units: 3

BIOL 241B - Molecular Biology II

Prerequisite: BIOL 102 and BIOL 103; CHEM 150 or CHEM 155A, or permission of instructor. BIOL 241A and CHEM 241A is a prerequisite for BIOL 241B or CHEM 241B (BIOL 241B same as CHEM 241B) Advanced topics in molecular biology are addressed, including gene regulation, recombinant DNA technology, protein trafficking, cell-cell communication, programmed cell death, oncogenes and cancer, RNA interference. A combination of lecturers and research paper discussion are used in this course.

Units: 3

BIOL 242 - Techniques in Protein Purification and Analysis

Prerequisite: CHEM 156 or permission of instructor

Corequisite: BIOL 241A or CHEM 241A (BIOL 242 same as CHEM 242) Deals with the technologies relevant to protein isolation, purification, analysis, immobilization, and modification in micro and macro quantities.

Weekly Lecture Hours: 1
Weekly Lab/Activity Hours: 6
Course Fee: \$40

Units: 3

BIOL 243 - Nucleic Acid Technology Lab

Prerequisite: BIOL 241A or CHEM 241A and BIOL 242 or CHEM 242

Corequisite: BIOL 241B or CHEM 241B (BIOL 243 same as CHEM 243) A lecture/laboratory course focusing on the technologies used in nucleic acid chemistry; specifically, synthesis, translation, mutagenesis, and genetic engineering.

Weekly Lecture Hours: 1
Weekly Lab/Activity Hours: 6
Course Fee: \$40

Units: 3

BIOL 244 - Cell Culture Techniques

Prerequisite: BIOL 103 and BIOL 104 (BIOL 244 same as CHEM 244) 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.

Weekly Lecture Hours: 1
Weekly Lab/Activity Hours: 6
Course Fee: \$40

Units: 3

BIOL 245 - Industrial Biotechnology

Prerequisite: 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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Units: 3

BIOL 248 - Seminar in Molecular Biology and Biotechnology

Prerequisite: Admission to the biology or chemistry graduate program
(CHEM 248 same as BIOL 248) Preference will be given to students enrolled in the Master of Biotechnology Program. Reviews and reports on current literature in various aspects of biotechnology and molecular biology.

Units: 1-2

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).

Units: 3

BIOL 251 - Experimental Design for Biologists

Experimental Design for Biologists offers an overview of the philosophy of science and the

scientific method and helps students frame research questions and develop hypotheses, choose appropriate methods and design experiments, and interpret and present their experimental results. (Formerly BIOL 260T)

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

BIOL 256 - Plant Development Genetics

This seminar course is intended for graduate students and will cover recent progress made in plant molecular genetics to understand how plants develop and how they respond to the biotic and abiotic environment.

Units: 3

Course Typically Offered: Fall

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** for a maximum of 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

BIOL 266 - Neuroethology

Neuroethology links brain function to natural behavior. This course will explore 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.

Units: 3

BIOL 267 - Behavioral Endocrinology

Interaction between hormones and behavior from an interdisciplinary perspective will be examined throughout this course. This interaction is bidirectional: hormones affect behavior and behavior can influence hormones. The course focuses on how prenatal hormonal levels influence hormone-behavior interactions as adults.

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

BIOL 272 - College Science Teaching

This course is designed for graduate students in the sciences and graduate students in science education who are interested in improving their science teaching and their students learning, and in pursuing careers in college science teaching. Central Course Question: How do college students best learn science and how do we best teach them?

Units: 3

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.

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

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 specialty.

Units: 1 **Repeatable** for a maximum of 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** for a maximum of 3 units.

BIOL 290 - Independent Study

See Academic Placement regarding Independent Study. Approved for SP grading.

Units: 1-3 **Repeatable** for a maximum of 6 units.

BIOL 295 - Research

Prerequisite: permission of instructor
Independent research by the advanced graduate

student.

Units: 2-6 **Repeatable** for a maximum of 6 units.

BIOL 298C - Project Continuation

Project Continuation

Units: 0

BIOL 299 - Thesis

Prerequisite: preparation, completion, and submission of an acceptable thesis for the master's degree
Approved for SP grading.

Units: 2-4 **Repeatable** for a maximum of 4 units.

BIOL 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

Biotechnology

BIOTC 275 - Biotechnology Industrial Experience

Prerequisite: PSM program classification; BIOL 241B or CHEM 241B; BIOL 248 or CHEM 248; or permission of instructor
Internship 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

Prerequisite: 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: 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

Prerequisite: 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: 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

Civil Engineering

CE 1 - Civil Engineering Orientation

An active learning orientation to the civil engineering profession and the role of engineers in each of its areas of specialization, engineering approach to problem solving including public welfare, environmental, social, and economic considerations, functioning on a team, ethical responsibilities of civil engineers, and best practices for success in the civil engineering degree program.

Additional Activity: field trips

Units: 1

Course Typically Offered: Fall, Spring

CE 2 - Engineering Communication and Essentials

Prerequisite: CE 1 and at least 11 units of other coursework

Development of technical writing and oral communication techniques used by engineers. Graphical presentation of data. Reading of civil engineering work products including plans, specifications, and proposals. Review of mathematical concepts essential for performing civil engineering calculations.

Additional Activity: field trips

Units: 1

CE 20 - Engineering Mechanics: Statics

Prerequisite: PHYS 4A and MATH 76, both with a C grade or better.

Analysis of force systems, equilibrium problems, section properties; graphic, algebraic, and vector methods of problem solution.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Units: 3

Course Typically Offered:

CE 29 - Engineering Mechanics

Prerequisite: PHYS 4A

Prerequisite or Corequisite: MATH 77

(ME 29 same as CE 29) Not open to mechanical or civil engineering majors. Study of fundamental principles of statics and dynamics by scalar and vector methods.

Units: 3

CE 80 - Computer Applications in Civil Engineering

Prerequisite: MATH 76 with a C grade or better.

Use and modification of existing programs. Creation of new programs. Use of structured language, spreadsheets, and numerical solutions CAD. Term projects. (Formerly CE 110)

Units: 3

Course Typically Offered: Fall, Spring

CE 121 - Mechanics of Materials

GE Area/Graduation Requirement: GE Integration IB

Prerequisite: CE 20 and MATH 77 both with a C grade or better.

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 2

Prerequisite or Corequisite: CE 121

Application of principles and methods of testing to verify theory and determine limitations of principles of mechanics of materials.

Units: 1

Course Typically Offered: Fall, Spring

CE 123 - Soil Engineering

Prerequisite: CE 121

Corequisite: CE 123L

Physical and mechanical properties of soil, lab and field testing, flow of water in soils including permeability and seepage, stress 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

Corequisite: CE 123

Prerequisite or Corequisite: CE 121L

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:

CE 124 - Concrete Laboratory

Prerequisite: CE 121L

Proportioning of concrete mixes; admixtures; workability tests; compressive, flexural, and tensile strength tests; reinforced concrete.

Weekly Lab/Activity Hours: 3

Additional Activity: field trips

Units: 1

Course Typically Offered: Fall, Spring

CE 125 - Geotechnical Engineering Design

Prerequisite: 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.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Units: 3

Course Typically Offered:

CE 127 - Site Plan Engineering

Prerequisite: CE 123, CE 128, CE 150, and GME 66L.

Process of designing sites for development. Students will engage with entitlement process, research of infrastructure, and the design of site plans, including parking, building layout, access requirements, and sustainability. AutoCAD Civil 3D used extensively in this course. (Formerly CE 191T)

Units: 3

Course Typically Offered: Fall

CE 128 - Civil Engineering Hydraulics

Prerequisite or Corequisite: CE 20

Fundamentals of civil engineering hydraulics with application to hydraulic structures.

Weekly Lab/Activity Hours: 3

Units: 3

Course Typically Offered: Fall, Spring

CE 129 - Engineering Hydraulics Lab

Prerequisite or Corequisite: CE 128

Experiments and demonstrations in fluid properties, flow management, pipe flow, open channel flow, pumps, and hydraulic scour.

Weekly Lab/Activity Hours: 3

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.

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:

CE 132 - Reinforced Concrete Design

Prerequisite: CE 130

Design of reinforced concrete structural elements and simple structures using the Ultimate Strength Design Method. Introduction of prestressed concrete.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

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.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Units: 3

Course Typically Offered: Fall, Spring

CE 134 - Foundation Design

Prerequisite: CE 123 and CE 123L

Prerequisite or Corequisite: CE 132

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; subsurface investigations; case histories; and computer-aided design of foundations.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Units: 3

Course Typically Offered:

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:

CE 137 - Seismic Analysis of Building Structures

Prerequisite: CE 130 and ME 112 with a C grade or better.

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.

Additional Activity: field trips

Units: 3

Course Typically Offered:

CE 150 - Transportation Planning and Design

Prerequisite: GME 15 and 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 forecast.

Units: 3

Course Typically Offered: Fall, Spring

CE 150L - Transportation Planning and Design Laboratory

Prerequisite or Corequisite: CE 150

This laboratory provides hand-on training to the planning and design of fundamentals of transportation engineering systems.

Units: 1

Course Typically Offered: Fall, Spring

CE 151 - Pavement Design

Prerequisite or Corequisite: CE 123

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:

CE 152 - Transportation Engineering Materials

Prerequisite: CE 123

Properties and durability of Portland cement concrete. Properties and testing of aggregates for asphalt 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 154 - Airport Planning and Design

Prerequisite: CE 80 and CE 150

This course is designed for engineering students who would like to understand how airports are planned and designed. The course is suitable for civil, mechanical and aerospace students. The information provided in this course falls into three categories: 1) aircraft performance, 2) planning the airport system, and 3) use of codes and regulations to design the airport airside.

Units: 3

Course Typically Offered: Fall

CE 155 - Transportation Geographic Information Systems (GIS)

Prerequisite: CE 150 with a C grade or better. 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

Course Typically Offered:

CE 156 - Railroad Engineering: An Introduction

Prerequisite: CE 20

This course is intended to give engineers a basic working knowledge of railway engineering, so that they can contribute positively to railway projects that they will encounter in their professional careers. It will also lay a foundation, so that students are prepared to take further, more specialized classes regarding railway equipment, infrastructure, and operations. Quantitative analysis of train resistance, such as at the wheel/rail interface followed by the system of railroad track components, roadbed considerations, route design, and track maintenance are covered

Units: 3

CE 157 - Highway and Railroad Geometric Design

Prerequisite: CE 80, CE 150, and GME 66L

This course will provide students with an understanding of the basic principles and techniques of Railroad and Highway design. This will include laying out potential railroad routes, design of the alignment and yards. Highway routes and intersections, evaluation of earthwork requirements, and safety considerations, also will be covered. The student should be able to understand and apply these principles to railroad and highway design problems. The student will learn some software packages that are widely used in transportation engineering industry.

Units: 3

Course Typically Offered: Fall

CE 161 - Construction Engineering I

GE Area/Graduation Requirement: GE Integration ID

Prerequisite: GE Foundation, Breadth D, PLSI 2 and GME 15

Engineering contracts and bids. Costs of construction and engineering. Societal, economic, environmental impacts on construction and engineering.

Units: 3

Course Typically Offered: Fall, Spring

CE 170 - Introduction to Water Resources Engineering

Prerequisite: CE 128

Prerequisite or Corequisite: CE 129

Introduction to hydrologic and hydraulic processes, water use, and water excess management. Includes design, operation, and maintenance of basic hydraulic structures including pump stations, water distribution systems, reservoirs, wells, and storm and sewer collection systems.

Units: 3

Course Typically Offered: Fall, Spring

CE 171 - Engineering Hydrology

Prerequisite or Corequisite: CE 128

Hydrologic processes, hydrologic analysis, and engineering applications of hydrologic science. The occurrence, distribution, and movement of water at and near the surface of the earth; physical processes involved in the land phase of the hydrologic cycle, applications of hydrologic analysis with statistical methods. (Formerly CE 140)

Units: 3

Course Typically Offered: Spring

CE 172 - Urban Stormwater Management

Prerequisite: CE 170

Prerequisite or Corequisite: CE 171

An overview of stormwater management; specification of elements of urban stormwater design. Topics include urban hydrology and hydraulics, stormwater quality and receiving-water impacts, design of drainage systems and best management practices, and computer modeling techniques. (Formerly CE 146)

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Units: 3

Course Typically Offered: Fall

CE 173 - Hydrologic and Hydraulic Engineering Design

Prerequisite: CE 170

Prerequisite or Corequisite: CE 171

HEC-HMS modeling of watershed runoff, routing, open channel flows in streams and floodplains. (Formerly CE 191T)

Units: 3

CE 174 - Water Distribution and Wastewater Collect Systems Design

Prerequisite: CE 170

This course is designed to enable students to learn hydraulic analysis and design of water distribution and sewerage collection systems. The applications of computer assisted pipe network design and analysis software and pump selection criteria are taught in this course. (Formerly CE 141).

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Units: 3

Course Typically Offered: Fall

CE 176 - Environmental Engineering

Prerequisite: CHEM 3A or CHEM 1A

Prerequisite or Corequisite: CE 128

Introduction to the principles and practices of environmental quality management, including water and air quality, waste management, and the environmental effects of engineered systems. (Formerly CE 142)

Units: 3

Course Typically Offered: Fall, Spring

CE 176L - Environmental Quality Laboratory

Prerequisite or Corequisite: CE 176

Study and analysis of physical, chemical, and biological characteristics of air, water, and solid wastes. (Formerly CE 142L)

Additional Activity: field trips

Units: 1

Course Typically Offered: Fall, Spring

CE 177 - Water Treatment Process Design

Prerequisite: CE 176

Design of conventional water treatment systems for production of drinking water (Formerly CE 144)

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Additional Activity: field trips

Units: 3

Course Typically Offered: Spring

CE 178 - Wastewater Treatment Process Design

Prerequisite: CE 176

Design of conventional wastewater treatment systems for production of reusable water. (Formerly CE 145)

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Additional Activity: field trips

Units: 3

Course Typically Offered: Fall

CE 180A - Project Design

Prerequisite: Completion of UDWR, senior standing in Civil Engineering; and permission of instructor.

Corequisite: Technical Area Courses

(9 units): CE 123, CE 123L; CE 124; CE 129; CE 132; CE 150; CE 161; or CE 176, CE 176L.

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

Prerequisite: CE 180A; Technical Area courses (9 units): CE 123, CE 123L; CE 124; CE 129; CE 132; CE 150; CE 161; CE 176, CE 176L; approved project proposal; and permission of instructor.

Corequisite: 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. (Formerly CE 180)

Units: 2

Course Typically Offered: Fall, Spring

CE 185 - Civil Engineering Practice

Prerequisite: 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:

CE 190 - Independent Study

See Academic Placement -- Independent Study. Approved for RP grading.

Units: 1-3 Repeatable for a maximum of 6 units.

Course Typically Offered:

CE 191T - Topics in Civil Engineering

Prerequisite: permission of instructor
Investigation of selected civil engineering subjects not in current courses.

Units: 1-3 Repeatable for a maximum of 6 units.

CE 193I - 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 Repeatable for a maximum of 4 units.

CE 205 - Computing in Engineering Analysis

Prerequisite: graduate status in engineering (ENGR 205 same as CE 205). 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. A passing grade in the Graduate Writing Requirement component of CE 210 is required to receive a passing grade in CE 210.

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

Prerequisite: CE 123, CE 123L, CE 125, and CE 134, or permission of instructor.
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

Prerequisite: CE 123, 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.

Additional Activity: field trips

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 AISI 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 problems, 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 - Introduction to Urban & Industrial Water Systems

Prerequisite: MATH 5 or equivalent and CHEM 3A or equivalent

Introduction to urban and industrial water management systems. Includes basic concepts of water occurrence, use, transport, quality, treatment, and reuse or disposal. Water transport (hydraulics) is a major component of the course. (Formerly CE-242)

Units: 3

CE 241 - Groundwater Engineering

Prerequisite: CE 128 and CE 171

Fundamentals of groundwater flow. Topics include: Darcy's law, flow nets, mass conservation, heterogeneity and anisotropy, storage properties, governing equation of groundwater flow, regional circulation, unsaturated flow, recharge, stream-aquifer interaction, well hydraulics, slug test analyses, and contaminant transport processes and remediation. (Formerly CE 240)

Units: 3

CE 243 - Surface Water Engineering

Prerequisite: CE 171 and CE 174

Students will learn to design a detention basin using the runoff and routing capabilities of the HEC-HMS software routing abilities. They will learn how to use HEC-RAS to model pre and post floodplains downstream of the detention basin. (Formerly CE 291T)

Units: 3

CE 244 - Water Resources Systems Optimization

Prerequisite: graduate standing

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.

(Formerly CE 291T)

Units: 3

CE 245 - Geoenvironmental Engineering

Prerequisite: BIOL 10, CHEM 3A, CE 123, CE 128, CE 129, CE 176, or permission of 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 246 - Contaminant Fate & Transport Engineering

Prerequisite: CE 128 and CE 172

Introduction to modeling chemical transport in the environment, factors controlling multimedia contaminant, quantification of transport rate, and prediction of resulting concentrations in air, water, and soil. Mathematical treatment beyond the elementary level (up to partial differential equations). (Formerly CE 241)

Units: 3

CE 247 - Water Treatment Processes

Prerequisite: MATH 77 or equivalent and CHEM 3A or equivalent

Theory and practice of selected physical/chemical water treatment operations and processes. (Formerly CE 246A)

Units: 3

CE 248 - Wastewater Treatment and Reuse

Prerequisite: MATH 77 or equivalent and CHEM 3A or equivalent

Analysis of wastewater characteristics, flow rates, and constituent loadings; Process analysis and selection; Design of unit operations and processes. (Formerly CE 246B)

Units: 3

CE 249 - Solid Waste 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 250 - Transportation System Design

Prerequisite: CE 150 or permission of instructor

This course covers state-of-practice theories and models of travel demand; particularly, 4-step model. Topics include understanding, modeling and simulation of travel behavior; and evaluation of transportation system designs. Extensive hands-on activities offering students advanced knowledge, skills and experiences working with different state-of-the-art data sources (ex. NHTS), mathematical models, and computer software (Access, R, and VISUM).

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.

Additional Activity: field trips

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

CE 283 - Digital Remote Sensing

Quantitative approach in remote sensing; digital image characteristics, error correction, registration; geometric and radiometric image enhancement; image classification; 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** for a maximum of 6 units.

CE 291T - Topics in Engineering

Prerequisite: permission of instructor
Investigation of selected engineering topics.
May be offered with a lab.

Units: 1-3 **Repeatable** for a maximum of 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: 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: CE 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

Child and Family Science

CFS 31 - Introduction to Family Science

GE Area/Graduation Requirement: GE Breadth D2

Prerequisite: GE Foundation A2 for students in English college-readiness Category III and IV.
Overview of the scientific study of family relationships. Topics include historical analysis, family theory and research methods, demographic trends, mate selection, sexuality, marriage, divorce, parenting, family violence, developmental aspects of family, and the impact of culture, class, and gender.

Units: 3

Course Typically Offered:

CFS 32 - Intimate Relationships

Prerequisite: open only to pre-majors, majors and minors in CFS
The course provides a comprehensive exploration of intimate interpersonal relationships. Topics include theories of interpersonal relationships, relationship types, contextual influences on relationships, how relationships form and dissolve, relationship maintenance, and threats to intimate relationships.

Units: 3

Course Typically Offered: Fall

CFS 37 - Introductory Child Development Practicum

Prerequisite: UDWR
Prerequisite or Corequisite: CFS 140

Open only to Child and Family Science majors with senior standing. Prepares students to use observation tools for studying the development of toddlers and preschool children, as well as developmentally appropriate and culturally responsive methods of assessment. Supervised field experience required for a Child Development Permit.

Weekly Lecture Hours: 3
Weekly Lab/Activity Hours: 3
Units: 4

Course Typically Offered:

CFS 38 - Life Span Development

GE Area/Graduation Requirement: GE Breadth E

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.

Units: 3

Course Typically Offered: Fall, Spring

CFS 38H - Honors Lifespan Development

GE Area/Graduation Requirement: GE Breadth E

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.

Units: 3

CFS 39 - Introduction to Child Development

GE Area/Graduation Requirement: GE Breadth E

Study of the physical, social, emotional, and cognitive development from conception through adolescence. Examines development in contexts of family, culture, and socio-historical perspective. Introduces child study methodologies.

Units: 3

Course Typically Offered:

CFS 90T - Topics in Child Development and/or Family Science

Topics related to child development and/or family relations

Units: 1-3 **Repeatable** for a maximum of 12 units.

CFS 100 - Child and Family Science

Prerequisite: CFS 31 and CFS 39
Prerequisite or Corequisite: CFS 153

Introduction to the CFS discipline, options within the major, and professional career paths. Topics include: major requirements, career paths in child development and family science, writing conventions, and making the most of an undergraduate education.

Units: 3

Course Typically Offered: Fall, Spring

CFS 130W - Professional Writing

Prerequisite: GE Foundation A2 with a C grade or better and open only to Child and Family Science majors
Professional writing in Child and Family Science, including correspondence, memos, and literature reviews. Emphasis on APA style. Meets the upper-division writing skills requirement for graduation.

Units: 3

Course Typically Offered:

CFS 131 - Family Theories

Open only to majors and minors in Child and Family Science. An introduction to family theories and their impact on issues such as gender, roles in family functioning, communication, power dynamics. Theories include Structural Functionalism, Family Systems Theory, Stress and Crisis Theory, Feminist Family Theory, and Family Development Theory.

Units: 3

Course Typically Offered: Fall, Spring

CFS 132T - Topics in Child Development and Family Relationships

Open only to majors and minors in Child and Family Science or by instructor permission. Topics relating to child development and family relationships. Some topics may have labs.

Units: 1-4

CFS 134 - Culture and Diversity

GE Area/Graduation Requirement: Multicultural/International

Prerequisite: GE Foundation with a C grade or better, Breadth D, CFS 31 and CFS 39
Open only to majors and minors in Child and Family Science, and Liberal Studies. Survey of the history and circumstances of children and families in various groups based on race,

ethnicity, culture, gender, sexual orientation, and religion; research on how children develop identity and attitudes about diversity; and cultural competence.

Units: 3

Course Typically Offered: Fall, Spring

CFS 135 - Parent Education

Prerequisite: CFS 31 and CFS 39
Open only to pre-majors and minors in Child and Family Science, and Liberal Studies. Study of the status of parenting and parenthood in contemporary society, the content of parent education programs (attachment, communication, consequences, applied behavior analysis), and strategies for adult education.

Units: 3

Course Typically Offered: Fall, Spring

CFS 136 - Adolescence

Prerequisite: CFS 39 or PSYCH 101
Open only to majors and minors in Child and Family Science, and Liberal Studies. Study of the physical, social, emotional, and cognitive development of adolescents and emerging adults. Examines development of self in the contexts of family, peer group, educational environments, work, community, and culture.

Units: 3

Course Typically Offered: Fall

CFS 137 - Care of Infants and Young Children

Prerequisite: CFS 39 or PSYCH 101
Open only to majors and minors in Child and Family Science, and Liberal Studies. Study of the care and education of infants and young children. Topics include types of care settings, cost and quality of early child care, best practices for curriculum and programming, guiding principles for those who provide care and education for very young children. This course meets the California state permit requirement for a course specific to infancy.

Units: 3

Course Typically Offered: Fall, Spring

CFS 138 - Infancy and Early Childhood Development

Prerequisite: CFS 39 or PSYCH 101
Open only to majors and minors in Child and Family Science, and Liberal Studies. Study of

physical, social, emotional, and cognitive development during infancy and early childhood. Includes in-depth study of brain development, attachment formation, and language, as well as policy issues related to infancy and early childhood. This course meets the California State permit requirement for a course specific to infancy.

Units: 3

Course Typically Offered: Fall, Spring

CFS 139 - Advanced Child Development Practicum

Prerequisite: CFS 37, CFS 140, and UDWR
Open only to Child and Family Science majors. Capstone class for graduating seniors. Study of curriculum and best practices in early child care settings. Students conduct observations; assess, implement, and evaluate developmentally appropriate learning experiences; apply theory to practice; and demonstrate a professional work ethic.

Weekly Lecture Hours: 3
Weekly Lab/Activity Hours: 3
Units: 4

Course Typically Offered:

CFS 140 - Child Development Theories

Open only to Child and Family Science majors. In-depth study of major child development theories. Theories include: psychoanalytic, sociocultural, attachment, cognitive, social learning, and information processing.

Units: 3

Course Typically Offered:

CFS 143S - Risk and Resilience

Prerequisite: CFS 31 and CFS 39
Open only to pre-majors, majors and minors in Child and Family Science, and Liberal Studies. Societal, family, and developmental factors that contribute to risk and resilience in children and families. At-risk categories, characteristics of high- and low-risk children, and causes of risk in early and middle childhood, adolescence, and emerging adulthood.

Units: 3

Course Typically Offered: Fall, Spring

CFS 145A - Observing the Development of Children

Prerequisite: UDWR; open only to majors in Child and Family Science with senior standing
Prerequisite or Corequisite: CFS 140

Techniques in observing and recording the development and behaviors of school age children. Interpretation and reporting of observational data. Emphasis on children in school settings from developmental, ecological, and systems perspectives.

Weekly Lecture Hours: 3
Weekly Lab/Activity Hours: 3
Units: 4

Course Typically Offered:

CFS 145B - Advanced Observation of Children

Prerequisite: CFS 145A
Open only to majors in Child and Family Science. Capstone class for graduating seniors. Advanced application of techniques in observing and recording child development and behavior. Observation of children in affective, social, physical, and cognitive domains, and analysis of elementary and middle school contexts of development. Interpretation and reporting of observational data.

Weekly Lecture Hours: 3
Weekly Lab/Activity Hours: 3
Units: 4

Course Typically Offered:

CFS 146 - Middle Childhood

Prerequisite: CFS 39 or PSYCH 101
Open only to majors and minors in Child and Family Science, and Liberal Studies. Study of the physical, social, emotional, and cognitive development of school age children. Examines development in the context of the family, peer group, educational environments, community, and culture.

Units: 3

Course Typically Offered: Fall, Spring

CFS 150 - Family Law and Policy

Prerequisite: CFS 31, CFS 39
Prerequisite or Corequisite: CFS 153

Open only to pre-majors and minors in Child and Family Science, and Liberal Studies. Review of laws and policies related to marriage, divorce, child custody, parental rights, surrogacy, child support, adoption, family violence, foster care, public assistance, social security, health care, LGBT rights, immigration, child care licensing, and family medical leave.

Units: 3

Course Typically Offered: Fall, Spring

CFS 152 - The Dark Side of Close Relationships

Examine communication theory and research related to interactions in close relationships that are typically considered challenging, abusive, complicated, stressful, taboo, or unpleasant. Investigate the negative and potential positive consequences of these relational experiences. (Formerly COMM-152)

Units: 3

Course Typically Offered: Spring

CFS 153 - Research Methods

Prerequisite: CFS 31 or CFS 39 or PSYCH 101
Scientific approach to the study of children and families. Topics include sampling, measurement, study design, and statistics. Emphasizes understanding the process of scientific discovery, clearly distinguishing it from non-science and pseudoscience, and learning to accurately interpret and evaluate research.

Units: 3

Course Typically Offered:

CFS 179 - Family Life Education

Prerequisite: CFS 31
Open only to majors and minors in Child and Family Science, and Liberal Studies, senior standing. Preparation for students to enter careers in family life education. Topics include: content areas of family life education, teaching methods, program evaluation, professional ethics, professional communication, and building relationships as a family life educator.

Units: 3

Course Typically Offered: Fall

CFS 190 - Independent Study

See Academic Placement --Independent Study. Approved for RP grading.

Units: 1-3 **Repeatable** for a maximum of 6 units.

Course Typically Offered: Fall, Spring

CFS 192 - Research Lab

Prerequisite: permission of instructor
Open only to Child and Family Science majors.
Advanced experience in scholarship for selected majors that includes involvement in research being conducted by faculty. Approved for RP grading.

Units: 1-3 Repeatable for a maximum of 6 units.

Course Typically Offered: Fall, Spring

CFS 193I - Internship

Prerequisite: 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:

Cognitive Science

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

Chemistry

CHEM 1A - General Chemistry 1A

GE Area/Graduation Requirement: GE Breadth B1

Prerequisite: Math Category I or II, MATH 3L, MATH 5, or MATH 6 with a C grade or better.
Prerequisite or Corequisite: CHEM 1AL

Fundamental principles of chemistry such as

chemical bonding and structure, stoichiometry, thermochemistry, oxidation-reductions, and states of matter. GE Breadth B1 with CHEM 1AL. CHEM 1A and CHEM 1AL must be taken together the first time of enrollment.

Units: 3

CHEM 1AL - General Chemistry Laboratory 1A

GE Area/Graduation Requirement: GE Breadth B1

Prerequisite or Corequisite: CHEM 1A

Introduction to laboratory methods in general chemistry. GE Breadth B1 with CHEM 1A.

Weekly Lecture Hours: 1
Weekly Lab/Activity Hours: 3
Course Fee: \$15

Units: 2

CHEM 1B - General Chemistry 1B

Prerequisite: CHEM 1A and CHEM 1AL with a C grade or better.
Prerequisite or Corequisite: 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.

Units: 3

CHEM 1BL - General Chemistry Laboratory 1B

Prerequisite or Corequisite: CHEM 1B

Introduction to laboratory methods in general chemistry.

Weekly Lab/Activity Hours: 6
Course Fee: \$15

Units: 2

CHEM 3A - Introductory General Chemistry

GE Area/Graduation Requirement: GE Breadth B1

Prerequisite or Corequisite: GE Foundation B4

No credit for CHEM 3A after CHEM 1A and

CHEM 1AL. 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.

Weekly Lecture Hours: 3
Weekly Lab/Activity Hours: 3
Course Fee: \$15

Units: 4

Course Typically Offered: Fall, Spring

CHEM 3B - Introductory Organic and Biochemistry

Prerequisite: CHEM 3A
No credit for CHEM 3B to students with credit in CHEM 1B and CHEM 1BL. Primarily for students in health-oriented professions; not a substitute for CHEM 8. 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 or Corequisite: CHEM 3A and CHEM 3B

Introductory laboratory study of the properties and chemistry of carbon containing compounds and biological molecules.

Weekly Lab/Activity Hours: 3
Course Fee: \$20

Units: 1

Course Typically Offered: Fall, Spring

CHEM 8 - Elementary Organic Chemistry

Prerequisite: CHEM 1B and CHEM 1BL or CHEM 3A
Not open to chemistry majors. Recommended for students requiring a one- semester course in the field. 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

GE Area/Graduation Requirement: GE Breadth B1

Prerequisite: GE Foundation B4
Not open to students with credit in college chemistry; for nonscience majors. The significance of chemical principles in contemporary society; benefits and hazards relative to areas such as energy, health, diet, environment, and agriculture.

Weekly Lecture Hours: 3
Weekly Lab/Activity Hours: 2
Course Fee: \$7

Units: 4

Course Typically Offered: Fall, Spring

CHEM 10H - Chemistry & Society

GE Area/Graduation Requirement: GE Breadth B1

Prerequisite: GE Foundation B4
Not open to students with credit in college chemistry; for non-science majors. Discusses significance of chemical principles in contemporary society; benefits and hazards relative to areas such as energy, health, diet, environment and agriculture.

Weekly Lecture Hours: 3
Weekly Lab/Activity Hours: 3
Units: 4

CHEM 102 - Quantitative Analytical Chemistry

Prerequisite: CHEM 1B with a C grade or better and CHEM 128A
For chemistry majors; recommended for other science majors. 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.

Weekly Lecture Hours: 3
Weekly Lab/Activity Hours: 6
Course Fee: \$25

Units: 5

Course Typically Offered:

CHEM 105 - Quantitative Analysis Laboratory

Prerequisite: CHEM 1A and CHEM 1AL both with a C grade or better, or CHEM 3A with a B grade or better, or permission of instructor. Not open to chemistry majors. Laboratory study of principles and methods of applied quantitative analysis.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 6
Course Fee: \$25

Units: 4

Course Typically Offered:

CHEM 106 - Analytical Measurements Laboratory

Prerequisite: CHEM 102 with a C grade or better, CHEM 108 or CHEM 110A, UDWR with a C grade or better, or permission of instructor. Principles and methods of analytical measurements of organic and inorganic substances by instrumental and non-instrumental techniques.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 6
Course Fee: \$25

Units: 4

Course Typically Offered: Fall

CHEM 106S - Instrumental Analysis in Industrial Settings

Prerequisite: CHEM 102 with a C grade or better, CHEM 108 or CHEM 110A, UDWR with a C grade or better, 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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 6
Course Fee: \$25

Units: 4

CHEM 108 - Introductory Physical Chemistry

Prerequisite: MATH 76, CHEM 8 or CHEM 128A, and PHYS 2B or PHYS 4B. MATH 77 strongly recommended.

Basic treatment of gas laws, thermodynamics, phase equilibria, properties of solutions, kinetics, and spectroscopy.

Units: 4

Course Typically Offered: Fall

CHEM 110A - Physical Chemistry

Prerequisite: MATH 76, CHEM 1B, CHEM 1BL, 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

Prerequisite: 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 102 and UDWR with a C grade or better. Prerequisite or Corequisite: CHEM 110B or CHEM 112

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.

Weekly Lecture Hours: 1
Weekly Lab/Activity Hours: 6
Course Fee: \$25

Units: 3

Course Typically Offered: Spring

CHEM 112 - Biophysical Chemistry

Prerequisite: CHEM 108 or CHEM 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:

CHEM 123 - Advanced Inorganic Chemistry

Prerequisite: CHEM 1B, CHEM 1BL, and CHEM 102
Prerequisite or Corequisite: CHEM 110A

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: UDWR with a C grade or better.
Corequisite: CHEM 123
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.

Weekly Lab/Activity Hours: 6
Course Fee: \$35

Units: 2

Course Typically Offered: Spring

CHEM 125 - Applied Analytical Techniques

Prerequisite: 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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Units: 3

CHEM 128A - Organic Chemistry

Prerequisite: CHEM 1B and CHEM 1BL both with a C grade or better, or CHEM 8 with a C grade or better.

For chemistry and biochemistry majors; recommended for premedical, prepharmacy, preveterinary, predental, preoptometry students and other science majors. Introduction to structure and reactivity of principal classes of organic compounds with emphasis on theory and mechanism.

Units: 3

Course Typically Offered:

CHEM 128B - Organic Chemistry

Prerequisite: CHEM 128A with a C grade or better.

For chemistry majors; recommended for premedical, prepharmacy, preveterinary, predental, preoptometry students and other science majors. Introduction to structure and reactivity of principal classes of organic compounds with emphasis on theory and mechanism.

Units: 3

Course Typically Offered:

CHEM 129A - Organic Chemistry Laboratory

Prerequisite: CHEM 8 or CHEM 128A with a C grade or better.
Prerequisite or Corequisite: CHEM 128A. If co-enrolled in CHEM 128A, then CHEM 1B and CHEM 1BL must be passed with a C grade or better

Introduction to experimental techniques used in organic chemistry, including the preparation, purification, and identification of organic compounds.

Weekly Lab/Activity Hours: 6
Course Fee: \$25

Units: 2

Course Typically Offered: Fall, Spring

CHEM 129B - Organic Chemistry Laboratory

Prerequisite: CHEM 129A
Prerequisite or Corequisite: CHEM 128B

Preparation, purification, and identification of organic compounds. Introduction to chemical research by way of independent projects.

Course Fee: \$15

Units: 2

Course Typically Offered:

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 for a maximum of 6 units.

CHEM 150 - General Biochemistry

Prerequisite: CHEM 3B or CHEM 8 or Corequisite: CHEM 128B
CHEM 150 and CHEM 155B together constitute a year sequence. Chemistry and metabolism of basic cellular constituents including carbohydrates, lipids, proteins, and nucleic acids.

Units: 3

Course Typically Offered:

CHEM 155A - Fundamentals of Biochemistry

Prerequisite: 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.

Units: 3

Course Typically Offered: Spring

CHEM 156 - Biochemical Laboratory Techniques

Prerequisite: CHEM 102 or CHEM 105, CHEM 129A, UDWR with a C grade or better, senior standing, or permission of instructor.

Prerequisite or Corequisite: CHEM 150 or CHEM 155A

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.

Weekly Lecture Hours: 1

Weekly Lab/Activity Hours: 6

Course Fee: \$30

Units: 3

Course Typically Offered:

CHEM 160H - Research Techniques

Prerequisite: 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.

Weekly Lecture Hours: 1

Weekly Lab/Activity Hours: 6

Units: 3

Course Typically Offered:

CHEM 161W - Scientific Writing Workshop

Prerequisite: G.E. 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

GE Area/Graduation Requirement: GE Integration IB

Prerequisite: GE Foundation B4 and Breadth B. Not open to chemistry majors. The impact of chemistry and chemicals on society and individual lives.

Units: 3

CHEM 180H - Honors Seminar in Chemistry

Prerequisite: 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 for a maximum of 6 units.

Course Typically Offered:

CHEM 199 - Undergraduate Thesis

Prerequisite: CHEM 190 or CHEM 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

Corequisite: appointment as a teaching associate in the department of Chemistry and

Biochemistry or permission of instructor
Discussion and practice of effective laboratory teaching techniques, laboratory safety, common equipment setups, and grading.

Units: 3

CHEM 211 - Chemical Thermodynamics

Prerequisite: CHEM 110A, CHEM 110B, CHEM 111

Principles of thermodynamics; application to chemical problems; introduction to statistical methods, calculation of thermodynamic functions from spectroscopic data.

Units: 3

CHEM 212 - Biophysical Chemistry

Prerequisite: CHEM 110A, CHEM 110B, CHEM 111

This course focuses on the chemical and physical principles underlying the structure, function, and dynamics of biological systems, with a particular focus on proteins. Topics to be covered include Basics of spectroscopic and computational techniques with selected applications of thermodynamics, statistical mechanics to understand functional dynamics of biopolymers.

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

Prerequisite: 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

Prerequisite: 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

Prerequisite: 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

Prerequisite: 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

Prerequisite: 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

Prerequisite: 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

Prerequisite: 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 241A - Molecular Biology I

Prerequisite: BIOL 102, BIOL 103; CHEM 150 or CHEM 155A; or permission of instructor (BIOL 241A same as CHEM 241A.)

Fundamental topics in molecular biology are addressed, including protein and nucleic acid structure, DNA replication, transcription, translation, generic material exchange mechanisms, genome structure, recombination and transposition. A combination of lectures and research paper discussion are used in this course.

Units: 3

CHEM 241B - Molecular Biology II

Prerequisite: BIOL 102, BIOL 103; CHEM 150 or CHEM 155A; or permission of instructor. BIOL 241A and CHEM 241A is prerequisite for BIOL 241B or CHEM 241B.

(BIOL 241B same as CHEM 241B.) Advanced topics in molecular biology are addressed, including gene regulation, recombinant DNA technology, protein trafficking, cell-cell communication, programmed cell death, oncogenes and cancer, RNA interference. A combination of lectures and research paper discussion are used in this course.

Units: 3

CHEM 242 - Techniques in Protein Purification and Analysis

Prerequisite: CHEM 156 or permission of instructor

Corequisite: BIOL 241A or CHEM 241A (BIOL 242 same as CHEM 242.) Deals with the technologies relevant to protein isolation, purification, analysis, immobilization, and modification in micro and macro quantities.

Weekly Lecture Hours: 1

Weekly Lab/Activity Hours: 6

Course Fee: \$40

Units: 3

CHEM 243 - Nucleic Acid Technology Lab

Prerequisite: BIOL 241A or CHEM 241A and BIOL 242 or CHEM 242

Corequisite: BIOL 241B or CHEM 241B

(BIOL 243 same as CHEM 243.) A lecture/laboratory course focusing on the technologies used in nucleic acid chemistry; specifically, synthesis, translation, mutagenesis, and genetic engineering.

Weekly Lecture Hours: 1

Weekly Lab/Activity Hours: 6

Course Fee: \$40

Units: 3

CHEM 244 - Cell Culture Techniques

Prerequisite: BIOL 103 and BIOL 104 (BIOL 244 same as CHEM 244.) 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.

Weekly Lecture Hours: 1

Weekly Lab/Activity Hours: 6

Course Fee: \$40

Units: 3

CHEM 245 - Industrial Biotechnology

Prerequisite: BIOL 120 and CHEM 150 or CHEM 155, or permission of instructor (Same as BIOL 245) 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.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 3
Units: 3

CHEM 248 - Seminar in Molecular Biology and Biotechnology

Prerequisite: Admission to the Biology or Chemistry graduate program (CHEM 248 same as BIOL 248.) Preference will be given to students enrolled in the Master of Biotechnology Program. Reviews and reports on current literature in various aspects of biotechnology and molecular biology.

Units: 1-2

CHEM 250 - Forensic Microscopy & 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. 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).

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Units: 3

CHEM 260 - Advanced Research Techniques

Prerequisite: 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.

Weekly Lecture Hours: 1
Weekly Lab/Activity Hours: 6
Units: 3

CHEM 280 - Seminar in Chemistry

Approved for RP grading.

Units: 1 **Repeatable** for a maximum of 3 units.

CHEM 290 - Independent Study

See Academic Placement. Approved for RP grading.

Units: 1-3 **Repeatable** for a maximum of 6 units.

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: 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

Preparation, completion, and submission of an acceptable thesis for the master's degree.
Approved for RP grading.

Units: 5

CHEM 299C - Thesis Continuation

Prerequisite: 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 special 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 1A - Elementary Chinese 1A

GE Area/Graduation Requirement: GE Breadth C2

Prerequisite: GE 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

CHIN 1B - Elementary Chinese

GE Area/Graduation Requirement: GE Breadth C2

Prerequisite: GE Foundation A2 and CHIN 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.

Units: 4

Course Typically Offered: Fall, Spring

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 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.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Units: 3

Course Typically Offered: Fall, Spring

CI 123 - Classroom Management

Classroom organization, management, and mainstreaming including focus on the culturally, linguistically diverse student.

Units: 2

Course Typically Offered: Fall, Spring

CI 124 - Principles of Character Education

Prerequisite: 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.

Units: 1

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 135 - Sociopolitical/Cultural Contexts of Latina/o/x Education and Pedagogy

Prerequisite: enrollment in or completion of a Multiple Credential, admission to the Liberal Studies Bilingual Authorization program, and/or consent of the instructor

This course will cover sociopolitical, sociocultural, and sociolinguistic concepts as they relate to Latina/o/x communities, education, and pedagogy. Discussion of commonalities of culture, language, and home country or countries; major historical periods and events; values, belief systems, and contributions; migration, immigration, and linguistic patterns; historical and contemporary demography.

Units: 3

CI 136 - Multicultural Education

Assists teachers and other school personnel to acquire skills in multicultural curriculum design and delivery. Emphasizes language acquisition instruction and mentoring techniques for working with students in a pluralistic society.

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

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 - Managing 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.

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:

CI 152 - Adolescent Learning and Development

GE Area/Graduation Requirement: GE Integration ID

Prerequisite: Admission to the Single Subject Credential Program, GE Foundation and Breadth D.

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

CI 158 - 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.

Units: 3

CI 159 - Curriculum and Instruction in Secondary Schools

Prerequisite: Admission to the Single Subject Credential Program

Corequisite: 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.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Units: 3

Course Typically Offered:

CI 161 - Content Area Methods and Materials in Secondary Teaching

Prerequisite: Admission to the Single Subject Credential Program or teaching experience.

Prerequisite or Corequisite: CI 152 and CI 159

Planning, delivering, and assessing content-specific instruction; academic and common core standards; identifying specific standards that require literacy strategies.

Course Fee: instructional materials fee for Single Subject - Art Methods and Materials enrollees, \$10

Units: 3

Course Typically Offered: Fall, Spring

CI 161 - Methods and Materials for Teaching Science

Prerequisite: Admission to the Single Subject Credential Program or teaching experience.

Prerequisite or Corequisite: CI 152 and CI 159

Planning, delivering, and assessing content-specific instruction; academic and common core standards; identifying specific standards that require literacy strategies.

Course Fee: instructional materials fee for Single Subject - Art Methods and Materials enrollees, \$10

Units: 3

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

Course Typically Offered:

CI 161 - Methods and Materials, Theatre

This course is required for California State single subject credential in Theatre. This course will build students' understanding of the curricular and extracurricular aspects of the work of a theatre teacher.

Units: 3

CI 161 - Mth Mtl Agri

Units: 3

CI 161 - Mth Mtl Art

Units: 3

CI 161 - Mth Mtl Bus

Units: 3

CI 161 - Mth Mtl Engl

Units: 3

CI 161 - Mth Mtl F L

Units: 3

CI 161 - Mth Mtl H Ec

Units: 3

CI 161 - Mth Mtl H S

Units: 3

CI 161 - Mth Mtl I T

Units: 3

CI 161 - Mth Mtl Mus

Units: 3

CI 161 - Mth Mtl P E

Units: 3

CI 161 - Mth Mtl S Sci

Units: 3

CI 162 - Understanding Children, Learning, and Development in TK-8 Classrooms

This course focuses on the principles of educational psychology and their relations with recent research and school practice. It provides diverse theoretical perspectives on learning and development in children and adolescents, as well as their implementation and application in school settings. (Formerly CI 180T)

Units: 3

Course Typically Offered: Fall, Spring

CI 163 - Curriculum and Pedagogy: Designing for Successful Teaching TK-8

Prerequisite: admission to the Multiple Subject Credential program

This course examines the design and development of interdisciplinary and integrated curriculum in K-8 classrooms. The course content includes background information on curriculum theories and multiple pedagogical approaches with a focus on the integration of curriculum and instruction. (Formerly CI 180T)

Units: 3

Course Typically Offered: Fall, Spring

CI 171 - Understanding the Learner, Instructional Design and Assessment

Prerequisite: admission to the Multiple Subject Credential Program

Corequisite: EHD 174 or permission of instructor

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 investigate reforms, curricular theories, and instructional models.

Units: 3

Course Typically Offered: Fall, Spring

CI 171ECE - Psychological Contexts of Teaching and Learning

Prerequisite: 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

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.

Units: 3

Course Typically Offered: Fall, Spring

CI 176 - Mathematics Instruction and Applied Assessment

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 linguistically 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.

Units: 1-3 **Repeatable** for a maximum of 9 units.

CI 190 - Independent Study

See Academic Placement -- Independent Study.
Approved for RP grading.

Units: 1-3 **Repeatable** for a maximum of 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.

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.

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.

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 institutes in the region. Working in groups, students create educational products that will be posted on the web.

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.

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 Practice 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.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Units: 3

CI 275 - Advanced Instructional Theories and Strategies

Study and application of contemporary research and theory in teaching and instruction.

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 examine 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.

Units: 1-3

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.

Units: 3

CI 285 - Seminar in Advanced Educational Psychology

Prerequisite: 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.

Units: 3

CI 286 - Social Issues in Education

Prerequisite: 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.

Units: 3

CI 287 - Seminar in History of Educational Thought

Prerequisite: 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.

Units: 3

CI 290 - Independent Study

See Academic Placement -- Independent Study.
Approved for RP grading.

Units: 1-3 **Repeatable** for a maximum of 6 units.

CI 298 - Project

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 such as the development of curricula and instructional materials, educational policy, educational theory, and educational technology. An approved proposal is required for enrollment. Approved for RP grading.

Units: 2-4

CI 298A - Project: Curriculum and Instruction

Prerequisite: Advancement to Candidacy for the MA in Education - Curriculum and Instruction option (MAE - CandI); 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

Prerequisite: 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: 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

Prerequisite: Advancement to Candidacy for the MA in Education - Curriculum and Instruction option (MAE - CandI); 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

Prerequisite: 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: CI 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

CI 380T - Topics in Education

Studies in theory, procedures, and application in such areas as social forces, professional activities, technology, and instructional innovations.

Units: 1-6

Chicano and Latin American Studies

CLAS 3 - Introduction to Chicano/Latino Studies

GE Area/Graduation Requirement: GE Breadth F

Prerequisite: G.E. Foundation A2 for students in English college -readiness Category III and IV
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.

Units: 3

Course Typically Offered:

CLAS 5 - Chicanx Culture and History

GE Area/Graduation Requirement: GE Breadth F

Prerequisite: G.E. Foundation A2 for students in English college -readiness Category III and IV
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.

Units: 3

Course Typically Offered:

CLAS 9 - Chicano Artistic Expression

GE Area/Graduation Requirement: GE Breadth C1

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.

Units: 3

Course Typically Offered:

CLAS 30 - Critical Thinking in Chicano and Latin American Studies

GE Area/Graduation Requirement: GE Foundation A3

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 about race, ethnicity, gender, culture and class with a focus on Chicanos and Latin America.

Units: 3

Course Typically Offered: Fall, Spring

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.

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

Prerequisite: GE Foundation A2 with a C grade or better.

Critical, written analysis of Chicana and Latina writing and culture with emphasis on gender, race, sexuality, and social class. Meets the upper-division writing skills requirement for graduation.

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

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

CLAS 108 - Latinx Theatre

(CLAS 108 same as DRAMA 108) Production of Chicano Theatre for major performances. Comedia del Arte, Passion Plays, Theatre of the Absurd, Socially Popular Theatre: Teatro Compesino.

Units: 3

CLAS 112 - Pre-Hispanic Civilizations

Historical examination of the origins of the Maya-Aztec civilizations in Mesoamerica 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

GE Area/Graduation Requirement: GE Integration ID

Prerequisite: GE Foundation, Breadth D and PLSI 2

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).

Units: 3

Course Typically Offered: Fall, Spring

CLAS 115 - Mexico-U.S. Relations Since-1910

GE Area/Graduation Requirement: GE Integration ID

Prerequisite: GE Foundation, Breadth D and PLSI 2

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

GE Area/Graduation Requirement: GE Breadth F

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.

Units: 3

CLAS 128 - Latinx Politics

GE Area/Graduation Requirement: GE Breadth F

Political philosophies, goals, and strategies of Chicanos and Latinos as reflected in their attempts to gain political power.

Units: 3

CLAS 130 - Latinx Culture and Media Studies

GE Area/Graduation Requirement: GE Integration IC

Evaluates roles of mass media institutions in cultural/social development of Latinx communities and vice versa. Media and Latinx community social/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 140 - Politics of Latina Health and Size

(WGSS 140 same as CLAS 140) 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

CLAS 141 - The Chicano Family

(CLAS 141 same as WGSS 141.) Traditional and changing relationships in the family structure of the Chicano; interaction with wider institutional social system.

Units: 3

Course Typically Offered: Spring

CLAS 143 - Bilingual/Bicultural Education

Prerequisite: CLAS 120 for CLAS majors; CLAS 120 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 145S - Service Learning in Chicano@/Latin@ 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 with a service-learning component.

Units: 3

Course Typically Offered:

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.

Units: 3

CLAS 160 - Sex, Race, and Class in American Society

GE Area/Graduation Requirement:
Multicultural/International

Prerequisite: GE Foundation and Breadth D.
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.

Units: 3

Course Typically Offered: Fall, Spring

CLAS 162 - Chicana Women in a Changing Society

(CLAS 162 same as WGSS 139) 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

Course Typically Offered: Fall

CLAS 163 - Latinx in Education

GE Area/Graduation Requirement: GE
Breadth F

Prerequisite: GE Foundation A2 for students in English college -readiness Category III and IV
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.

Units: 3

Course Typically Offered: Fall, Spring

CLAS 170 - Latin American Studies

GE Area/Graduation Requirement:
Multicultural/International

Prerequisite: GE Foundation and Breadth 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.

Units: 3

Course Typically Offered: Fall, Spring

CLAS 171 - Multicultural Brazil

(CLAS 171 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

Course Typically Offered: Spring

CLAS 172S - Migration in the Americas

This course will examine Latin American migration from the late nineteenth century to the present. The central question we will cover is: why do people migrate? This course has a service learning component.

Units: 3

Course Typically Offered: Spring

CLAS 173 - Latin American Politics

(CLAS 173 same as PLSI 148) 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.

Units: 3

Course Typically Offered: Spring

CLAS 177 - Arts of Colonial Mexico

(ARTH 127 same as CLAS 177) A comprehensive survey of the major artistic and architectural manifestations of colonial Mexico and other territories of the Viceroyalty of New Spain (ca. 1519-1820s). (Formerly ARTH 109T)

Units: 3

Course Typically Offered:

CLAS 178 - Arts of the Colonial Andes

(ARTH 128 same as CLAS 178) A comprehensive survey of the major artistic and architectural manifestations of the colonial Andean region and other territories of the Viceroyalties of Peru (ca. 1532-1820s). (Formerly ARTH 109T)

Units: 3

Course Typically Offered:

CLAS 180T - Topics of Chicano Society

Culture, art forms, economy, and societal organization. Certain CLAS 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** for a maximum of 6 units.

Course Typically Offered: Fall, Spring

Construction Management

ARCH 1 - Construction Management and Architectural Studies Orientation 1

(CM 1 same as ARCH 1) An overview of construction management and architectural studies education and profession. Introduction to the construction and architecture industry, career opportunities, leadership/personality assessment, sustainability, ethics, safety, community service, and university experience.

Units: 1

Course Typically Offered: Fall, Spring

ARCH 2 - Construction Management and Architectural Studies Orientation 2

(CM 2 same as ARCH 2) An overview of architecture, engineering, and construction management professions. Introduction to the architecture and construction industries. Exploring architectural design, building materials, construction costs and developing related hands-on skills through project-based learning.

Units: 1

Course Typically Offered: Fall, Spring

ARCH 17 - Construction Materials & Basic Building Systems

(CM 17 same as ARCH 17) Introduction to basic construction materials and exploration of theoretic principles relating to the various building systems. Typical course activities include lectures, field trips, design projects with SketchUp, and guest speaker presentations.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Additional Activity: field trips
Units: 3

Course Typically Offered: Fall, Spring

ARCH 18 - Construction Graphics

Prerequisite or Corequisite: CM 17 or ARCH 17

(CM 18 same as ARCH 18) 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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Units: 3

Course Typically Offered: Fall, Spring

ARCH 19L - Integrated Construction Lab

Prerequisite: CM 18 or ARCH 18
(CM 19L same as ARCH 19L) First course of the Design/Build Integrated Lab Experience (ILE). Students will work in teams to build a simple wood-framed structure designed by architecture students and supervised by construction management students.

Weekly Lab/Activity Hours: 3
Units: 1

Course Typically Offered: Fall, Spring

ARCH 20 - Construction Documents

Prerequisite or Corequisite: CM 18 or ARCH 18

(CM 20 same as ARCH 20) Roles and responsibilities for AEC projects; project delivery; methods for developing and applying construction documents including plans, contracts and specifications; and construction contract administration.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Units: 3

Course Typically Offered: Fall, Spring

ARCH 30 - History of Architecture I

This course explores world architecture from prehistory through the 15th century. The course approaches architecture history and design from a number of different interpretive perspectives, including the: formal, typological, and experiential, from the perspectives of architect and patron. The course helps students understand the various cultural, ideological, and aesthetic ideas that have shaped buildings through history. (Formerly CM 30)

Units: 3

ARCH 31 - Architectural Graphics

Prerequisite: ARCH 32
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. (Formerly CM 31)

Weekly Lecture Hours: 1
Weekly Lab/Activity Hours: 4
Units: 3

Course Typically Offered: Fall

ARCH 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. (Formerly CM 32)

Weekly Lecture Hours: 1
Weekly Lab/Activity Hours: 4
Units: 3

Course Typically Offered: Fall

ARCH 33 - History of Architecture II

This course explores world architecture from the 15th century and into the 21st century. The course approaches architecture history and design from a number of different interpretive perspectives, including: formal, typological, and experiential, from the perspectives of architect and patron. The course helps students understand the various cultural, ideological, and aesthetic ideas that have shaped buildings throughout history. (Formerly CM 33)

Units: 3

ARCH 50 - Basic Building Codes

Exploration of theoretic principles relating to the various building codes. (Formerly CM 50)

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Additional Activity: field trips
Units: 3

Course Typically Offered: Fall, Spring

ARCH 98 - Construction Management and Architectural Studies Competition

Prerequisite: permission of instructor.
(CM 98 same as ARCH 98) Preparation for construction management and architectural studies related competitions.

Weekly Lab/Activity Hours: 2-6

Units: 1-3 **Repeatable** for a maximum of 6 units.

Course Typically Offered: Spring

ARCH 105 - Construction Structures

Prerequisite: CM 20 or ARCH 20; PHYS 2A or PHYS 4A; MATH 70 or MATH 75; all with a C grade or better.

(CM 105 same as ARCH 105) Properties, strength, and functional applications of basic construction materials: woods, metals, and concrete. Recent developments in new materials and applications.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Additional Activity: field trips

Units: 3

Course Typically Offered: Fall, Spring

ARCH 131 - Advanced Architectural Graphics

Prerequisite: ARCH 31, ARCH 32 and upper division standing.

Architectural graphic techniques as tools of three dimensional analysis and representation in the design process. (Formerly CM 131)

Weekly Lab/Activity Hours: 6

Units: 3

Course Typically Offered: Spring

ARCH 132 - Advanced Architectural Design

Prerequisite: ARCH 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. (Formerly CM 132)

Weekly Lab/Activity Hours: 6

Units: 3

ARCH 134 - Architectural Design Problems

Prerequisite: ARCH 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.

Weekly Lab/Activity Hours: 6

Units: 3

Course Typically Offered: Fall

ARCH 137L - Integrated Design Lab

Prerequisite: CM 19L or ARCH 19L

Prerequisite or Corequisite: ARCH 132

Architectural related course of the Design/Build Integrated Lab Experience (ILE). Students will work in teams to design a simple wood-framed structure constructed by lower division students and supervised by construction management students. (Formerly CM 137L)

Weekly Lab/Activity Hours: 3

Units: 1

ARCH 138 - Advanced Architectural Design Project

Prerequisite: ARCH 132

Implementation of advanced design solutions emphasizing conceptual strategies of form and space, site contextual relationships and social, technological and environmental determinants. Immersive AR and VR experiences will be explored. Studio work is supplemented by lectures, discussions, readings and field trips.

Weekly Lecture Hours: 1

Weekly Lab/Activity Hours: 6

Additional Activity: field trips

Units: 4

Course Typically Offered: Fall

ARCH 140 - Building Mechanical, Electrical, and Plumbing

Prerequisite: ARCH 20 or CM 20

Survey of building mechanical, electrical, and plumbing systems. Orientation to the design fundamentals and construction of various sustainable and environmentally friendly systems and equipment. Lectures, field trips, and guest speakers. (Formerly CM 140)

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 3

Additional Activity: field trips

Units: 3

ARCH 144 - Construction Site Planning and Development

Prerequisite: CM 116 or ARCH 131; and upper division standing.

(CM 144 same as ARCH 144) Analysis of land development; site investigation, grading, street piping systems, and landscaping.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Additional Activity: field trips

Units: 3

Course Typically Offered: Spring

ARCH 177 - Sustainable Construction

Prerequisite: CM 20 or ARCH 20

(CM 177 same as ARCH 177) 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.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Additional Activity: field trips

Units: 3

Course Typically Offered: Spring

ARCH 178 - Architectural Practice Seminar

Prerequisite: ARCH 131

Activities by prominent practitioners in the architecture and construction industry, faculty, and public officials, demonstration of the latest technology in industry, workshops in technical writing activities, preparation of resumes, and interviewing skills.

Units: 1

Course Typically Offered: Spring

ARCH 180A - Architectural Studies Capstone 1

Prerequisite: ARCH 105 or CM 105; ARCH 132, and ARCH 178

Prepare conceptual design, implementation of sustainable materials, assess construction components and utilize various planning approaches for a building project. Lab, field trips and guest speakers.

Weekly Lab/Activity Hours: 3

Units: 1

Course Typically Offered: Fall

ARCH 180B - Architectural Studies Capstone 2

Prerequisite: ARCH 180A

The architect's relation to internal organization, owner, construction manager, engineer, public, press, legal aid, unions, trades, equipment, utilities, insurance, finances, government, and others. Lectures, lab, field trips, and guest speakers.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 3

Additional Activity: field trips

Units: 3

Course Typically Offered: Spring

ARCH 193i - Internship/Work Experience

Prerequisite: sophomore standing and permission of instructor. Open only to architectural studies majors.

Supervised work experience in architecture related industries. Periodic consultations with instructor.

Units: 1

Course Typically Offered: Fall, Spring

CM 1 - Construction Management and Architectural Studies Orientation 1

(CM 1 same as ARCH 1) An overview of construction management and architectural studies education and profession. Introduction to the construction and architecture industry, career opportunities, leadership/personality assessment, sustainability, ethics, safety, community service, and university experience.

Units: 1

Course Typically Offered:

CM 2 - Construction Management and Architectural Studies Orientation 2

(CM 2 same as ARCH 2) An overview of architecture, engineering, and construction management professions. Introduction to the architecture and construction industries. Exploring architectural design, building materials, construction costs and developing related hands-on skills through project-based learning.

Weekly Lab/Activity Hours: 2

Units: 1

Course Typically Offered:

CM 5 - Analysis of Construction Materials

Analyzing quantities of basic construction materials: concrete, masonry, metals, woods, thermal materials, finishes, equipment, and specialties.

Weekly Lecture Hours: 1

Weekly Lab/Activity Hours: 2

Additional Activity: field trips

Units: 2

Course Typically Offered: Fall, Spring

CM 15 - Construction Management Software and Safety

Introduction to construction industry software and construction safety standards. Basic instruction in estimating, scheduling, design, and project management software. Includes 30 hours of OSHA related construction safety regulations and practices.

Weekly Lab/Activity Hours: 4

Units: 2

Course Typically Offered: Fall, Spring

CM 17 - Construction Materials & Basic Building Systems

(CM 17 same as ARCH 17) Introduction to basic construction materials and exploration of theoretic principles relating to the various building systems. Typical course activities include lectures, field trips, design projects with SketchUp, and guest speaker presentations.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Additional Activity: field trips

Units: 3

Course Typically Offered: Fall, Spring

CM 17S - Construction Materials & Basic Building Systems

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, field trips, and guest speakers. (Formerly CM 7S)

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Additional Activity: field trips

Units: 3

Course Typically Offered: Fall, Spring

CM 18 - Construction Graphics

Prerequisite or Corequisite: CM 17 or ARCH 17

(CM 18 same as ARCH 18) 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.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 3

Units: 3

Course Typically Offered:

CM 19L - Integrated Construction Lab

Prerequisite: CM 18 or ARCH 18
(CM 19L same as ARCH 19L) First course of the Design/Build Integrated Lab Experience (ILE). Students will work in teams to build a simple wood-framed structure designed by architecture students and supervised by construction management students.

Weekly Lab/Activity Hours: 3

Units: 1

Course Typically Offered: Fall, Spring

CM 20 - Construction Documents

Prerequisite or Corequisite: CM 18 or ARCH 18

(CM 20 same as ARCH 20) Roles and responsibilities for AEC projects; project delivery; methods for developing and applying construction documents including plans, contracts and specifications; and construction contract administration.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Units: 3

Course Typically Offered: Fall, Spring

CM 21L - Construction Quantity Take-Off Lab

Prerequisite or Corequisite: CM 20, CM 5 or MATH 75 or MATH 75B

Demonstrate an understanding of interpreting construction plans and applying an appropriate quantity take-off technique.

Weekly Lab/Activity Hours: 2
Units: 1

Course Typically Offered: Fall, Spring

CM 30 - History of Architecture I

This course explores world architecture from prehistory through the 15th century. The course approaches architecture history and design from a number of different interpretive perspectives, including the: formal, typological, and experiential, from the perspectives of architect and patron. The course helps students understand the various cultural, ideological, and aesthetic ideas that have shaped buildings through history. (Formerly 191T)

Units: 3

CM 31 - Architectural Graphics

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.

Weekly Lecture Hours: 1
Weekly Lab/Activity Hours: 4
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.

Weekly Lecture Hours: 1
Weekly Lab/Activity Hours: 4
Units: 3

Course Typically Offered: Fall

CM 33 - History of Architecture II

This course explores world architecture from the 15th century and into the 21st century. The

course approaches architecture history and design from a number of different interpretive perspectives, including: formal, typological, and experiential, from the perspectives of architect and patron. The course helps students understand the various cultural, ideological, and aesthetic ideas that have shaped buildings throughout history. (Formerly 191T)

Units: 3

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.

Weekly Lab/Activity Hours: 6
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.

Weekly Lab/Activity Hours: 6
Units: 3

Course Typically Offered: Fall, Spring

CM 50 - Basic Building Codes

Exploration of theoretic principles relating to the various building codes.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Additional Activity: field trips
Units: 3

Course Typically Offered: Fall, Spring

CM 98 - Construction Management Competition

Prerequisite: permission of instructor (CM 98 same as ARCH 98) Preparation for construction management related competitions.

Weekly Lab/Activity Hours: 2-6
Units: 1-3 **Repeatable** for a maximum of 6 units.

Course Typically Offered:

CM 105 - Construction Structures

Prerequisite: CM 20, PHYS 2A or PHYS 4A, MATH 75; all with a C grade or better. (CM 105 same as ARCH 105) Properties, strength, and functional applications of basic construction materials: woods, metals, and concrete. Recent developments in new materials and applications.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Additional Activity: field trips
Units: 3

Course Typically Offered: Fall, Spring

CM 107 - Advanced Construction Structures

Prerequisite: CE 20 or CM 105
Analysis of construction materials in its application to different structural systems.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Units: 3

Course Typically Offered: Fall, Spring

CM 107L - Advanced Construction Structures Lab

Prerequisite or Corequisite: CM 107

Application of principles and methods of testing to verify theory and determine limitations of principles of construction materials.

Units: 1

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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Units: 3

Course Typically Offered: Fall, Spring

CM 116 - Construction Scheduling

Prerequisite or Corequisite: 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.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Units: 3

Course Typically Offered:

CM 120 - Construction Safety Management

Prerequisite: CM 19L, CM 110, and CM 116
Introduction to basic construction site safety focus on site preparation, planning, and inspection for safe operations. Application of construction management practices to develop safety plans. (Formerly CM 191T)

Weekly Lecture Hours: 1

Weekly Lab/Activity Hours: 2

Units: 2

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 Relations

GE Area/Graduation Requirement: GE Integration ID

Prerequisite: GE Foundation with a C grade or better, Breadth D and PLSI 2

Study of federal and state labor oriented regulations as applied to construction industry practices. Explore the social, political, economic institutions and behavior related to labor in the A/E/C industry.

Units: 3

Course Typically Offered: Fall

CM 127 - Construction Soils and Foundation

Prerequisite or Corequisite: CM 107

Not open to civil engineering majors. 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 31, CM 32 and upper division standing

Architectural graphic techniques as tools of three dimensional analysis and representation in the design process

Weekly Lab/Activity Hours: 6

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.

Weekly Lab/Activity Hours: 6

Units: 3

CM 134 - Architectural Design Problems

Prerequisite: CM 116 or 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.

Weekly Lab/Activity Hours: 6

Units: 3

CM 140 - Building Mechanical, Electrical, and Plumbing

Prerequisite: CM 17S and CM 20

Survey of building mechanical, electrical, and plumbing systems. Orientation to the design fundamentals and construction of various sustainable and environmentally friendly systems and equipment. Lectures, field trips, and guest speakers.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 3

Additional Activity: field trips

Units: 3

CM 144 - Construction Site Planning and Development

Prerequisite: CM 116 or ARCH 131; and upper division standing.

(CM 144 same as ARCH 144) Analysis of land development; site investigation, grading, street piping systems, and landscaping.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Additional Activity: field trips

Units: 3

Course Typically Offered: Spring

CM 145 - Historic Preservation and Urban Renewal

GE Area/Graduation Requirement: GE Integration IC

Prerequisite: G.E. Foundation and Breadth Area C; senior standing

Students will analyze the opportunity for urban renewal through the integration of modern urban spaces and existing historic buildings as well as understand and apply the various means and methods for historic preservation, governmental regulations, and owner requirements.

Units: 3

Course Typically Offered: Fall, Spring

CM 150 - Building Construction

Prerequisite: CM 116

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.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Additional Activity: field trips

Units: 3

CM 151 - Heavy Civil Construction

Prerequisite: CM 116

Problems and methods of solutions in heavy construction from earth moving, paving, compacting to tunneling; administrative procedures, quantity surveying, estimating, scheduling, and bidding.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Additional Activity: field trips

Units: 3

Course Typically Offered:

CM 152 - BIM for Construction Management

Prerequisite: CM 110, CM 116

An introduction to building information modeling (BIM) and its implementation in construction management. Topics include business benefits of BIM; BIM technology and software applications, model-based spatial coordination, cost estimating and scheduling, and BIM execution planning. (Formerly CM 191T)

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Units: 3

Course Typically Offered: Fall

CM 160 - Plumbing Systems

Prerequisite: CM 20, PHYS 2A or MATH 76; all with a C grade or better.

Construction application of water systems, plumbing and storm drainage, and sewage disposal systems. (Formerly CM 166)

Units: 2

CM 162 - Mechanical Systems

Prerequisite: CM 160 with a C grade or better. 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.

Weekly Lecture Hours: 1

Weekly Lab/Activity Hours: 2

Additional Activity: field trips

Units: 2

Course Typically Offered: Fall

CM 164 - Building Electrical Systems

Prerequisite: CM 20, PHYS 2B or MATH 76; all with a C grade or better.

Electrical systems for power, light, heat, signals, and communications in commercial, industrial, and residential buildings.

Weekly Lecture Hours: 1

Weekly Lab/Activity Hours: 2

Additional Activity: field trips

Units: 2

Course Typically Offered: Spring

CM 170 - Construction Project Controls

Prerequisite: CM 116

Development and application of construction 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.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Units: 3

Course Typically Offered: Fall

CM 174L - Integrated Construction Management Lab

Prerequisite or Corequisite: CM 170

Final course of the Design/Build Integrated Lab Experience (ILE). Students will work in teams to manage the construction of a simple wood-framed structure designed by architecture students and constructed by lower division students.

Weekly Lab/Activity Hours: 3

Units: 1

CM 177 - Sustainable Construction

Prerequisite: CM 20 or ARCH 20

(CM 177 same as ARCH 177) 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.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Additional Activity: field trips

Units: 3

Course Typically Offered: Spring

CM 179 - Construction Management Tech Topics Seminar

Prerequisite or Corequisite: CM 105

Activities by prominent practitioners in the architecture and construction industry, faculty, and public officials, demonstration of the latest

technology in industry, workshops in technical writing activities, preparation of resumes, and interviewing skills.

Weekly Lab/Activity Hours: 2

Units: 1

CM 180A - Construction Management Capstone 1

Prerequisite: CM 105, CM 179, CM 116 (CM students) or CM 132 (AS Students)

Prerequisite or Corequisite: CM 193I

Prepare conceptual design, implementation of sustainable materials, assess construction components and utilize various planning approaches for a building project. Lab, field trips and guest speakers.

Weekly Lab/Activity Hours: 3

Additional Activity: field trips

Units: 1

Course Typically Offered: Fall

CM 180B - Construction Management Capstone 2

Prerequisite: CM 180A

The construction manager's relation to internal organization, owner, architect, engineer, public, press, legal aid, unions, trades, equipment, utilities, insurance, finances, government, and others. Lectures, lab, field trips, and guest speakers.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 3

Units: 3

Course Typically Offered: Spring

CM 190 - Independent Study

See Academic Placement. Approved for SP grading. (Course fee variable)

Units: 1-3 **Repeatable** for a maximum of 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

CM 193I - Internship/Work Experience

Prerequisite: sophomore standing and permission of instructor
Open only to construction majors. Supervised work experience in construction related industries. Periodic consultations with instructor.

Units: 1 **Repeatable** for a maximum of 3 units.

Course Typically Offered:

CM 220 - Advanced Planning and Preconstruction

Advanced study of preconstruction planning and organizing methods and procedures for defining a project, identifying potential issues, and achieving successful project outcomes. This course covers concept, scope, team assembly, budget and schedule development, constructability, and construction documentation review.

Units: 3

Course Typically Offered: Fall, Spring

CM 230 - Advanced Construction Operations

Introduction of production management concepts, techniques and tools to design, analyze, and improve core construction operational capabilities. Topics covered include lean production principles, project control, risk pooling, and quality management.

Units: 3

CM 240 - Advanced Construction Business Strategy

Introduction of strategic management activities that affect profitability on construction projects and within a construction company. Inherent risks are discussed in detail. Case studies are used to identify potential risks and to apply methods to mitigate those risks.

Units: 3

CM 290 - Independent Study

Prerequisite: graduate status in Construction Management or Engineering or permission of instructor
Approved for RP grading.

Units: 1-3

CM 291T - Topics in Construction Management

Prerequisite: Permission of instructor
Investigation and analysis of advanced constructions management topics. May be offered with a lab component.

Units: 3 **Repeatable** for a maximum of 6 units.

CM 293I - Internship

Prerequisite: graduate status in Construction Management or permission of instructor
Supervised work experience in construction related industries. Periodic consultations with instructor.

Units: 1-3

Course Typically Offered:

CM 298 - Project

Prerequisite: graduate status in Construction Management
Independent investigation of advanced topics on real-world construction projects: critical review of special topics related to construction, as the culminating requirement for the master's degree. Abstract required. Approved for RP grading.

Units: 3

CM 298C - Project Continuation

Prerequisite: CM 298
For continuous enrollment while completing the project. May enroll twice with department approval. Additional enrollments must be approved the the Dean of Graduate Studies.

Units: 0

CM 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

CM 299C - Thesis Continuation

Prerequisite: CM 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

Communication

COMM 3 - Fundamentals of Public Communication

GE Area/Graduation Requirement: GE Foundation A1

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.

Units: 3

Course Typically Offered:

COMM 4 - Introduction to Interpersonal Communication

Introduction to various theories of interpersonal communication; participation in experiences designed to enhance competence in interpersonal relationships.

Units: 3

Course Typically Offered: Fall, Spring

COMM 5 - Argumentation

GE Area/Graduation Requirement: GE Foundation A3

Logical analysis, evidence, reasoning, and proof used in arriving at rational decisions as demonstrated through presentation of public speeches and debates.

Units: 3

Course Typically Offered:

COMM 6H - Rhetoric for Autonomy and Collaboration in the Marketplace of Ideas

GE Area/Graduation Requirement: GE Foundation A1

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.

Units: 3

COMM 7 - Persuasion

GE Area/Graduation Requirement: GE Foundation A1

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.

Units: 3

Course Typically Offered:

COMM 8 - Group Discussion

GE Area/Graduation Requirement: GE Foundation A1

Communication in group thinking and problem solving through preparation and presentation of panels and symposia on public issues.

Units: 3

Course Typically Offered:

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.

Units: 1-3 **Repeatable** for a maximum of 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

Course Typically Offered:

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. A grade of C or better is required for all Communication Majors.

Units: 3

Course Typically Offered:

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.

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.

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.

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.

Units: 3

Course Typically Offered:

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

Course Typically Offered:

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.

Units: 3

COMM 117S - Civic Engagement, Advocacy, and Forensic Service

Prerequisite: COMM 3, COMM 5, COMM 7, or COMM 8 with a C grade C better. Service learning in speech and debate. Participation in judging forensics competitions, coaching students participating in forensics activities, and taking part in civic engagement.

Units: 3

Course Typically Offered: Spring

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.

Units: 3

Course Typically Offered: Fall

COMM 130 - Environmental Communication

Exploration of communication about the environment. Examine ways individuals and collectives, such as corporations, governments, scientists, and citizens, describe, persuade, and shape human interactions with the environment. Study how communication processes and perspectives inform and are informed by environmental interrelationships. (Formerly COMM 188T)

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. A grade of C or better is required for all Communication Majors.

Units: 3

Course Typically Offered:

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. A grade of C or better is required for all Communication Majors.

Units: 3

Course Typically Offered:

COMM 144 - Rhetoric of Terrorism

Examines the discourse of foreign policy officials, news media, pop culture, and terrorists to explore the relationships among these rhetorics, public perceptions of terrorism and weapons of mass destruction, and foreign policy in the "war on terrorism."

Units: 3

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.

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.

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.

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 as acquaintanceships, courtships, friendships, and families. Attention is given to communicative practices involved in the effective management of interpersonal relationships over time.

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.

Units: 3

Course Typically Offered: Fall, Spring

COMM 164 - Intercultural Communication

GE Area/Graduation Requirement:
Multicultural/International

Prerequisite: GE Foundation and Breadth 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.

Units: 3

Course Typically Offered: Fall, Spring

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.

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. A grade of C or better is required for all Communication Majors.

Units: 3

Course Typically Offered:

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.

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.

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.

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.

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.

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.

Units: 3

Course Typically Offered: Spring

COMM 179I - Internship

Prerequisite: 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.

Units: 1-6

Course Typically Offered: Fall, Spring

COMM 188T - Topics in Communication

Selected topics in communication.

Units: 1-3

COMM 189 - Projects in Communication

Prerequisite: permission of instructor
Projects in communication.

Additional Activity: 4
Units: 1-3

Course Typically Offered: Fall, Spring

COMM 190 - Independent Study

See Academic Placement -- Independent Study.
Approved for RP grading.

Units: 1-3 **Repeatable** for a maximum of 6 units.

Course Typically Offered:

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.

Units: 3

COMM 210 - Teaching Practicum

Instruction in the development of effective public speaking, including course/material design and instructional strategy. Supervision of graduate teaching associate preparation, classroom teaching, and assessment. Required for all first-semester graduate teaching associates.

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.

Units: 3

COMM 215 - Seminar in Communication

Research and individually directed work within one area of specialization. Approved for RP grading.

Units: 3

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.

Units: 3

COMM 242M - Seminar in Contemporary Criticism

Prerequisite: COMM 142, equivalent, or permission of instructor
The role of rhetorical criticism in contemporary society.

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.

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.

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.

Units: 3

COMM 266 - Seminar in Communication and Culture

An examination of current critical, humanistic, 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.

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.

Units: 3

COMM 290 - Independent Study

See Academic Placement -- Independent Study.
Approved for RP grading.

Units: 1-3 **Repeatable** for a maximum of 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 activities, etc. Requires scholarly report similar in format to thesis and final oral defense.
Approved for RP grading.

Units: 2-6

COMM 298C - Project Continuation

Prerequisite: project COMM 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.

Units: 2-6

COMM 299C - Thesis Continuation

Prerequisite: thesis COMM 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

Community Service

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 presentations on topics related to community service-learning. CR/NC grading only.

Units: 1-3

COMS 101I - 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

Counselor Education

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:

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.

Course Fee: Successful career Development, \$10

Units: 1-3 **Repeatable** for a maximum of 12 units.

COUN 190 - Independent Study

See Academic Placement. Approved for SP grading.

Units: 1-3 **Repeatable** for a maximum of 6 units.

Course Typically Offered: Fall, Spring

COUN 200 - Seminar in Counseling Techniques

Prerequisite: COUN 174
(3; Max total 6) 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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Units: 3

COUN 202 - Seminar in Group Counseling

Prerequisite: COUN 174 and COUN 200
Theories and methods of interpersonal

communication within groups, transfer of information, group leadership and membership, role perceptions, verbal and nonverbal interaction, and group counseling. One of the lab hours consists of mandatory participation in an experiential group

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Course Fee: \$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

Prerequisite: 12 units in the 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, COUN 238, COUN 239, or COUN 249.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 4
Units: 4 **Repeatable** for a maximum of 8 units.

COUN 209 - Advanced Practicum in Counselor Supervision

Prerequisite: 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.

Course Fee: 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.

Units: 3

COUN 214S - Student Development Theory and Higher Education Development

The purpose of this course is to provide graduate students an introduction to the field of college student and higher education development. Students will have opportunities to learn about a range of college student development theories and apply them in a service-learning context. Service-Learning is an integral part of this course to enhance students' insights into the processes of college student learning, growth, and development. Focus will be directed toward understanding patterns of growth and change during the college years through readings, service, class discussions, and reflective activities for different student subgroups and the implications of these changes for the practices of student affairs and college counseling.

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 development.

Units: 3

COUN 219 - Field Practice in Student Services

Prerequisite: 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. Note: If taken a third time the units could be used towards electives.

Course Fee: CSU liability insurance fee, \$8

Units: 3-6 Repeatable for a maximum of 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.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Course Fee: course fee for assessment materials, \$10

Units: 3

COUN 230 - Seminar in Family Therapy Theories

Prerequisite: COUN 174
Study of theories, techniques, and methodology of marriage and family therapy. Current research and methods are presented.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Units: 3

COUN 231 - Seminar in Ethics and Professional Practices of Counseling

Prerequisite: COUN 200
Prerequisite or Corequisite: COUN 230 or permission of instructor

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.

Units: 3

COUN 233 - Seminar in Therapeutic Methods with Children, Adolescents, and Their Families

Prerequisite: 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.

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 issues, 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.

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 requirements for substance abuse training.

Units: 1

COUN 234D - Psychopharmacology

Prerequisite: COUN 232 or REHAB 204
This course will provide a general working knowledge of psychopharmacology for mental health professionals. The course will cover the biological basis for psychopharmacological 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.

Units: 2

COUN 234E - Seminar in Consultation

Prerequisite: 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

Prerequisite: COUN 208, COUN 230, COUN 232, and permission of instructor
Prerequisite or Corequisite: COUN 231

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.

Course Fee: CSU liability insurance fee, \$8

Units: 4 **Repeatable** for a maximum of 8 units.

COUN 239 - Field Placement in Counseling

Prerequisite: 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.

Course Fee: CSU liability insurance fee, \$8

Units: 3-12 **Repeatable** for a maximum of 12 units.

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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Units: 3

COUN 241 - Seminar in Organization of Counseling Services

Prerequisite: COUN 200
Organization, administration, and evaluation of counseling programs.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Units: 3

COUN 242S - Seminar on Parent Education, Pupil Advocacy, and Consulting

Prerequisite: 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 responsibility. S sections include a service-learning requirement.

Units: 3

COUN 249 - Field Practice in School Counseling

Prerequisite: COUN 200, COUN 208, COUN 241 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.

Course Fee: CSU liability insurance fee, \$8

Units: 4-8 **Repeatable** for a maximum of 12 units.

COUN 270 - Seminar in Advanced Counseling Theories

This course is designed to foster an in-depth understanding of the major counseling theories while integrating core theoretical conceptualization in understanding human development and its challenges. Interventions, treatments, and multicultural impacts of the various theories are highlighted.

Units: 3

Course Typically Offered: Fall, Spring

COUN 271 - Seminar in Addictions Counseling

This course provides an overview of addictions counseling, including substance use, co-occurring disorders, and other addictive behaviors. Approaches to identification, evaluation, treatment, and prevention, including legal and medical aspects, populations at risk and community resources are highlighted.

Units: 3

Course Typically Offered: Fall, Spring

COUN 272 - Seminar in Psychopharmacology in Counseling

Prerequisite: COUN 232
This course introduces counseling students to psychopharmacology including the biological basis of behavior, classifications, indications, and contraindications of commonly prescribed psychopharmacological medications. The course incorporates an overview of substances, their actions, side-effects, use and abuses.

Units: 3

Course Typically Offered: Fall, Spring

COUN 273 - Seminar in Crisis and Trauma Counseling

This course provides an overview of various concepts and principles of crisis and trauma including aspects of biopsychosocial interpersonal and communal forms of crisis and trauma. Assessment, prevention, intervention and necessary self-care strategies for counselors are highlighted.

Units: 3

Course Typically Offered: Fall, Spring

COUN 280T - Advanced Topics in Counseling

Prerequisite: 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** for a maximum of 12 units.

COUN 290 - Independent Study

See Academic Placement - Independent Study.
Approved for RP grading.

Units: 1-3 **Repeatable** for a maximum of 6 units.

COUN 298 - Project

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 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: 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

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 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

COUN 299C - Thesis Continuation

Prerequisite: thesis COUN 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

Criminology

CRIM 1 - Strategies for Success in the Criminology Department

Only open to Criminology Department 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

GE Area/Graduation Requirement: GE Breadth D2

Prerequisite: GE Foundation A2 for students in English college -readiness Category III and IV
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.

Units: 3

Course Typically Offered: Fall, Spring

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

GE Area/Graduation Requirement: GE Breadth B4

Prerequisite: Mathematics placement category I or II. Students in Mathematics placement category III and IV are required to take CRIM 50
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. Only for Criminology and Forensic Behavioral Sciences majors.

Units: 3

Course Typically Offered:

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:

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

GE Area/Graduation Requirement: GE Integration ID

Prerequisite: GE Foundation, Breadth D and PLSI 2

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.

Units: 3

Course Typically Offered: Fall, Spring

CRIM 102 - Criminal Justice Organization and Management

Prerequisite: CRIM 2 and 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:

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

Prerequisite: permission of instructor and sponsoring agency.

Open only to criminology majors. 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** for a maximum of 12 units.

Course Typically Offered: Fall, Spring

CRIM 109 - Comparative Systems of Criminal Justice

Prerequisite: 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.

Units: 3

Course Typically Offered: Fall, Spring

CRIM 112 - Professionalism in Criminal Justice

Prerequisite: CRIM 2 and 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 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

Prerequisite: 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

GE Area/Graduation Requirement: GE Integration ID

Prerequisite: GE Foundation, Breadth D and PLSI 2

The problem of juvenile delinquency; portrait of delinquency; causal factors; agencies of justice; treatment process; programs for control and prevention.

Units: 3

Course Typically Offered:

CRIM 120S - Juvenile Delinquency

GE Area/Graduation Requirement: GE Integration ID

Prerequisite: GE Foundation, Breadth D and PLSI 2

The problem of juvenile delinquency; portrait of delinquency; causal factors; agencies of justice; treatment process; programs for control and prevention. To gain valuable experience in understanding the causes and impacts of juvenile delinquency, students will work closely with a local at risk youth in a mentoring role. S sections include a service-learning requirement.

Units: 3

Course Typically Offered: Fall, Spring

CRIM 125 - Cybersecurity: Law, Policy and Behavior

Discussion of key terms, concepts, and issues in cybersecurity and cybercrime as related to law, policy, and behavior within society. Investigate a range of cybersecurity operations, options, and frameworks to help individuals and organizations cope with the problem of cyber security and crime.

Units: 3

CRIM 126 - Women and Violence: Public Policy and the Law

(CRIM 126 same as WGSS 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

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

Open only to CRIM and FBS majors. 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 - Institutional Corrections

Prerequisite: 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

Prerequisite: 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 for a maximum of 12 units.

Course Typically Offered:

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 138 - Punishment and Society

Prerequisite: CRIM 2, CRIM 20, CRIM 100, or permission of instructor
In-depth examination of sentencing philosophies in the US; critical assessment of historical shifts and current developments in aims of sentencing; analysis of the impact on convicted offenders and society. (Formerly CRIM 136T).

Units: 3

Course Typically Offered: Fall, Spring

CRIM 139 - Criminal Justice Counseling Skills Practicum

Highly recommended: CRIM 134. 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 142 - Basic Courtroom Procedure

Prerequisite: permission of instructor
This course is part of the Mock Trial Program. The course focuses on courtroom procedures and related topics. (Formerly CRIM 136T)

Units: 3

CRIM 143 - Legal Evidence

Prerequisite: permission of instructor
This course is part of the Mock Trial Program. The course focuses on legal evidence and related topics. (Formerly CRIM 136T)

Units: 3

CRIM 144 - Trial Tactics

Prerequisite: permission of instructor
This course is part of the Mock Trial Program. The course focuses on trial strategies/tactics, rules of evidence, and related topics. (Formerly CRIM 136T)

Units: 3

CRIM 145 - Effective Expert Witnesses

Prerequisite: permission of instructor
This course is part of the Mock Trial Program. The course focuses on preparing effective expert witnesses. (Formerly CRIM 136T)

Units: 3

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 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** for a maximum of 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** for a maximum of 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:

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 psychological 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 178 - Restorative Justice

Presentation and discussion of theories that underlie and support restorative justice as well as provide insight into restorative practices and their impact on victims, offenders, and the community. (Formerly CRIM 136T)

Units: 3

Course Typically Offered: Fall

CRIM 180HI - Honors Internship

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** for a maximum of 6 units.

Course Typically Offered: Fall, Spring

CRIM 180I - Internship

Prerequisite: CRIM 1, CRIM 2, CRIM 20, open only to Criminology majors. Completion of 90 units, or 75 units and at least 15 additional units in progress at the time of course registration, or permission by instructor/internship coordinator. Corequisite: 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 40 field

hours per unit.)

Units: 3 **Repeatable** for a maximum of 12 units.

Course Typically Offered:

CRIM 190 - Independent Study

See Academic Placement -- Independent Study. Approved for RP grading.

Units: 1-3 **Repeatable** for a maximum of 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

Prerequisite: CRIM 170
Methods of analysis of multivariate data: including multiple regression, logistic regression and factor analysis. Computer statistical packages, applications, 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** for a maximum of 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

Prerequisite: 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

Prerequisite: 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

Prerequisite: 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

Prerequisite: 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.

Units: 3

CRIM 270T - Problems in Criminology

Prerequisite: admission to the criminology 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** for a maximum of 12 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.

Units: 3

CRIM 281 - Supervised Professional Experience

Prerequisite: permission of instructor and selected agency

Open only to criminology majors. 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** for a maximum of 6 units.

CRIM 292 - Readings in Criminology

Prerequisite: 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

Prerequisite: 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 integration of graduate-level scholarly knowledge related to the study of criminology.

Units: 3

CRIM 298 - Project

Prerequisite: 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: 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

Prerequisite: 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: 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

City and Regional Planning

CRP 80 - Introduction to Cities and Urban Planning

GE Area/Graduation Requirement: GE Breadth D2

Introduction to and discussion of theory and history of cities; the principles and methodologies of urban studies and analysis; value, ethnics, and practice of urban planning in American cities; planning policies that address urban sustainability, equity, and health problems in cities. (Formerly GEOG 81)

Units: 3

Course Typically Offered:

CRP 110 - Planning Process and Theory

Prerequisite: GE Foundation, Breadth D, or permission of instructor.

Exploration of answers to the following question through a survey of classic and contemporary theories of planning: What role can planning play in developing the city and region within the constraints of a capitalist political economy and a democratic political system. Activities utilized include communicative and participatory aspects of planning theory. (Formerly CRP 104)

Units: 3

Course Typically Offered: Fall

CRP 115 - Urban Design

Prerequisite: GE Foundation, Breadth D, or permission of instructor.

Exploring the principles of urban design at the scale of neighborhoods, downtowns, and city-wide basis through case studies and field observations. Learning the relationship of urban design to cultural, social and political factors, land use, transportation, environment, and public health.

Units: 3

Course Typically Offered: Fall

CRP 120 - Community Development Theory & Practice

Prerequisite: GE Foundation and Breadth D

Introduction to basic issues of urban housing, 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 programs. (Formerly CRP 103)

Units: 3

Course Typically Offered: Spring

CRP 125 - Environmental Planning

GE Area/Graduation Requirement: GE Integration ID

Prerequisite: GE Foundation, Breadth D and PLSI 2

The course includes theoretical and practical with the components in an effort to provide students with the skills needed to critically evaluate environmental factors in the planning process. The class is generally organized in to two sections: policies and practices. (Formerly GEOG 184)

Units: 3

Course Typically Offered:

CRP 130 - Transportation Planning

Prerequisite: GE Foundation, Breadth D, or permission of instructor

Introduction to brief history and trend of U.S. transportation planning; basic concepts and key issues in transportation; Analytical skills in travel analysis; the relationship between transportation, land use, and the environment; Transportation planning process and policy; sustainable transportation. (Formerly CRP 109)

Units: 3

Course Typically Offered: Spring

CRP 135 - Planning Law & Administration

Prerequisite: GE Foundation and Breadth D

Study of contemporary growth and land use management techniques used by local, state and federal governments. Examination of the role of public law in addressing urban growth and environmental change issues, and the legal aspects of preparing and administering planning controls and incentives. (Formerly CRP 106)

Units: 3

Course Typically Offered: Fall

CRP 140 - Economics for Planners

Prerequisite: GE Foundation, Breadth D, or permission of instructor

This course looks at urban problems from an economic and financial point of view. Students will better understand how economic decision making shapes urban areas and some of their problems, and how they may use economic arguments in making decisions on problems addressed by urban planners. (Formerly CRP 108)

Units: 3

Course Typically Offered: Spring

CRP 150A - Community Plan Making - A

Prerequisite: GE Foundation, Breadth D, or permission of instructor

Application of planning theory and methods to the analysis and creation of community plans. Students will work with selected clients including cities and communities in addressing local planning issues. Includes field trips to the selected client.

Additional Activity: field trips

Units: 3

Course Typically Offered: Fall

CRP 150B - Community Plan Making - B

Prerequisite: CRP 150A or permission of instructor

Application of planning theory and methods to the analysis and creation of community plans. Students will work with selected clients

including cities and communities in addressing local planning issues. Includes field trips to the selected client.

Additional Activity: field trips

Units: 3

Course Typically Offered: Spring

CRP 191T - 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 GEOG 187T)

Units: 1-3 **Repeatable** for a maximum of 6 units.

Course Typically Offered: Spring

CRP 196I - City And Regional Planning Internship

This course familiarizes the students with planning practice through an off-campus internship experience. Based on their employer's assignments, the intern will collect and analyze data, work with residents and other stakeholders, prepare planning reports, conduct mapping exercises, and/or make presentations. The internship must be preceded and succeeded by at least one semester of course work in planning while in residence at the California State University, Fresno.

Units: 3

Course Typically Offered: Fall

Craig School of Business Administration (CSB)

CSB 50 - Introduction to the Craig School of Business

Introduction to business careers, career development, educational options, and opportunities provided by the Craig School of Business. Emphasis on CSB requirements, resources, and expectations. Presentation of topics by faculty, staff, alumni, and business executives. CR/NC grading only.

Units: 1

CSB 150 - Strategies for Success

Prerequisite or Corequisite: UDWR

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.

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.

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.

Units: 3

Computer Science

CSCI 1 - Critical Thinking and Computer Science

GE Area/Graduation Requirement: GE Foundation A3

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.

Units: 3

Course Typically Offered:

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.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

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.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Units: 3

CSCI 39 - Computer Science Principles

Overview of computer science principles and computational thinking. Creativity and computing, abstraction, data and information, algorithms, programming, the Internet, global impacts. Data analysis and collaborative problem solving.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Units: 3

Course Typically Offered: Fall, Spring

CSCI 40 - Introduction to Programming and Problem Solving

Prerequisite or Corequisite: MATH 75 or MATH 75A; or permission of instructor

Introduction to problem solving, algorithm development, procedural and data abstraction; program design, coding, debugging, testing and documentation; a high-level programming language.

Weekly Lecture Hours: 3
Weekly Lab/Activity Hours: 2
Units: 4

Course Typically Offered:

CSCI 41 - Introduction to Data Structures

Prerequisite: CSCI 40 or ECE 71
Programming methodology, program correctness. Review of data types. Data structures: linear and nonlinear structures, files. Implementation of data structures. Recursion. Searching and sorting.

Weekly Lecture Hours: 3
Weekly Lab/Activity Hours: 2
Units: 4

Course Typically Offered:

CSCI 60 - Foundations of Computer Science

Prerequisite or Corequisite: CSCI 40

Abstraction, iteration, induction, recursion, complexity of programs, data models, and logic.

Units: 3

Course Typically Offered:

CSCI 68 - Computing Practice and Programming

Prerequisite: MATH 75
A project-based learning (PBL) course covering critical thinking methods through a series of small projects, using Python to solve problems using pedagogies from creativity and critical theories, writing scripts to automate problem-solving.

Weekly Lecture Hours: 3
Weekly Lab/Activity Hours: 2
Units: 4

Course Typically Offered: Fall

CSCI 80 - Introduction to Computer Systems

Prerequisite: CSCI 40 and 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. (Formerly CSCI 112)

Units: 3

Course Typically Offered:

CSCI 100 - Introduction to Computational Science

GE Area/Graduation Requirement: GE Integration IB

Prerequisite: GE Foundation and Breadth 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-performance computing.

Units: 3

Course Typically Offered: Fall, Spring

CSCI 101 - Computational Foundations for Bioinformatics

Prerequisite: CSCI 1, BIOL 102
Computational approaches to problems in molecular biology. Algorithms, heuristics, strings, graphs. Sequence comparison, multiple alignment. Selected topics such as scripting, visual programming, laboratory workflow, databases, and queries.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Units: 3

CSCI 108 - Algorithmic Thinking

Prerequisite: CSCI 68 or permission of instructor
A project-based learning (PBL) course covering object-oriented algorithmic thinking and data structures for science and mathematics pre-service and in-service teachers. (Formerly CSCI 191T)

Weekly Lecture Hours: 3
Weekly Lab/Activity Hours: 2
Units: 4

Course Typically Offered: Spring

CSCI 113 - Introduction to Computer Organization

Prerequisite: CSCI 80
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.

Weekly Lecture Hours: 3
Weekly Lab/Activity Hours: 2
Units: 4

Course Typically Offered: Fall, Spring

CSCI 114 - Introduction to Operating Systems

Prerequisite: CSCI 41 and CSCI 80 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. (Formerly CSCI 144)

Units: 3

Course Typically Offered: Fall, Spring

CSCI 115 - Algorithms and Data Structures

Prerequisite: 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.

Weekly Lecture Hours: 3
Weekly Lab/Activity Hours: 2
Units: 4

Course Typically Offered:

CSCI 117 - Structures of Programming Languages

Prerequisite: 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.

Weekly Lecture Hours: 3
Weekly Lab/Activity Hours: 2
Units: 4

Course Typically Offered:

CSCI 119 - Introduction to Formal Languages and Automata

Prerequisite: CSCI 41 and CSCI 60
Strings, languages, and fundamental proof techniques. Regular expressions, finite automata, and their properties, constructions, and relationships. Introduction to context-free languages and Turing Machines.

Units: 3

Course Typically Offered: Fall, Spring

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 or Corequisite: CSCI 115

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

Prerequisite: CSCI 115
Programming for the World Wide Web. Web servers and clients, Internet and Web protocols, and mark-up languages. Client side scripting, including both gateway and filter-based approaches.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2

Units: 3

Course Typically Offered: Fall

CSCI 134 - Compiler Design

Prerequisite: CSCI 80, 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 146 - Systems Architecture

Prerequisite: CSCI 113 and CSCI 114
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

Prerequisite: CSCI 113 and CSCI 114
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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Units: 3

Course Typically Offered: Fall

CSCI 152E - 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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Units: 3

Course Typically Offered: Spring

CSCI 154 - Simulation

Prerequisite: 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:

CSCI 156 - Internetworking Systems and Protocols

Prerequisite or Corequisite: CSCI 114 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, protocol layering, gateways, subnets. Client-server interactions. Upper layers of protocol stacks.

Units: 3

Course Typically Offered:

CSCI 157 - Computer Security

Prerequisite: CSCI 114 or permission of instructor.

Theoretical and hands-on, practical aspects of a broad umbrella of security topics with an emphasis on implementation of Attacks and Countermeasures. Topics include access control, vulnerabilities from malicious code, malicious web interactions, cryptography, secure engineering, and programming principles. Includes a number of hands-on experiments in a sandbox environment to understand the basic principles behind popular vulnerabilities and countermeasures. (Formerly CSCI 191T)

Units: 3

CSCI 158 - Applied Biometric Security

Prerequisite: CSCI 115 or permission of instructor.

Applied security systems and biometrics. Principles of biometrics, the pattern recognition nature of biometric systems, different forms of biometrics, such as fingerprint, face, gait, keystroke etc.. Topics include feature extraction and implementation of authentication systems for biometric data, performance evaluation of biometrics systems, spoofing attacks of biometrics and spoof prevention methods. Some foundational classifiers and their use and vulnerabilities in biometric systems are also covered. (Formerly CSCI 191T)

Units: 3

CSCI 159 - System and Cloud Security

Prerequisite: CSCI 114 and CSCI 156, or permission of instructor. Fundamental cryptography algorithms, public/private key and RSA, system security models, password mechanisms, network authentication, PGP, SSL, WiFi security with WEP and WPA, VPN, and cloud security.

Units: 3

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

Course Typically Offered:

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

Course Typically Offered:

CSCI 167 - Introduction to Deep Learning

Prerequisite: CSCI 115 or permission of instructor.

An overview of concepts, techniques, and algorithms in machine learning with special attention to concepts underlying modern deep learning. Fundamental concepts, techniques, and algorithms, including logistic regression, backpropagation, diminishing gradients issue, batch normalization, residual networks, convolutional networks, recurrent networks and their implementation. Hands-on experience through machine learning experiments using popular learning frameworks. (Formerly CSCI 191T)

Units: 3

Course Typically Offered: Fall

CSCI 168E - Big Data Analytics

Prerequisite: MATH 75 and CSCI 115
Corequisite: CSCI 164 or permission of instructor
Introduction to data mining and knowledge discovery process, big data fundamentals, Map-Reduce: Map and Reduce procedures, dimensionality reduction: Singular Value Decomposition and low-rank approximation, frequent itemsets and association rules, recommender systems: similarity search, spam detection, and mining data streams. (Formerly CSCI 191T)

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Units: 3

Course Typically Offered: Fall

CSCI 172 - Computer Graphics

Prerequisite: MATH 76, CSCI 41; and CSCI 80 or ECE 118
Hardware devices, raster graphics, device independence, 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.

Units: 3

Course Typically Offered:

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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Units: 3

Course Typically Offered: Fall

CSCI 174 - Design and Analysis of Algorithms

Prerequisite: 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

Course Typically Offered: Fall

CSCI 175 - Bioinformatics Computing

Prerequisite: CSCI 115 or permission of instructor.
Computational and algorithmic approaches in bioinformatics. Biological sequence alignment algorithms and heuristics, Study of bioinformatics tools, Combinatorial pattern matching, Motif finding, Gene prediction, Gene expression measurement, High-throughput sequencing technologies and data analysis methodologies and practices in molecular and micro biology, Selected topics from current research. (Formerly CSCI 191T)

Units: 3

CSCI 176 - Parallel Processing

Prerequisite: CSCI 113 and CSCI 114
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

Course Typically Offered: Spring

CSCI 177 - Distributed Computer Systems

Prerequisite: CSCI 113 and CSCI 114
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 178 - Game Development

Prerequisite: CSCI 115, and CSCI 172 or permission of instructor
The aim of this course is to familiarize students with programing and development of game engine concepts including rendering, 2D graphics, shaders, animation, state machines, object management, sound input pseudorandom number generators, rule-based AI, scripted level generation, time-based coding, event driven coding, and debuggers. This course is being taught using code for a simple billboard 2D game with constrained camera motion. (Formerly CSCI 191T)

Units: 3

Course Typically Offered: Spring

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. Approved for SP grading.

Units: 1-3 **Repeatable** for a maximum of 6 units.

CSCI 191T - Topics in Computer Science

Prerequisite: CSCI 115 or permission of instructor
Special topics in computer science of current interest and importance.

Units: 3 **Repeatable** for a maximum of 12 units.

CSCI 194I - Cooperative Education

Prerequisite: 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

CSCI 195i - Computer Science Internship

Prerequisite: Senior standing in Computer Science or permission of instructor and approved subject.
Demonstrate the depth and breadth of Computer Science through internship experience under the supervision of the department. Presentation by the student in a seminar setting and a final report are upon the agreement with the internship provider. Satisfies the senior major requirement for the B.S. in Computer Science. Approved for RP grading.

Units: 3 **Repeatable** for a maximum of 6 units.

CSCI 196S - Computer Science Service-Learning Senior Project

Prerequisite: Senior standing in computer science or permission of instructor.
Demonstrate the depth and breadth of Computer Science through service-learning project(s) to expand the professional experience of Computer Science students and broaden the contribution and benefit of community members. 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 **Repeatable** for a maximum of 6 units.

CSCI 198 - Project

Prerequisite: senior standing in computer science or permission of instructor and approved subject
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

Course Typically Offered: Fall, Spring

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

Prerequisite: CSCI 80 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

Course Typically Offered: Spring

CSCI 226 - Advanced Database Systems

Prerequisite: CSCI 126 and CSCI 114
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 control.

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.

Units: 3

CSCI 244 - Operating Systems

Prerequisite: CSCI 114
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 114 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

Course Typically Offered:

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.

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 265 - Reinforcement Learning

Prerequisite: CSCI 115 or permission of instructor.
This course covers the concepts and current trends in reinforcement learning, including the theory of Markov decision processes, dynamic

programming, temporal difference learning, Monte Carlo methods, and the role of function approximation. (Formerly CSCI 291T)

Units: 3

Course Typically Offered: Fall

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. Approved for SP
grading.

Units: 1-3 **Repeatable** for a maximum of 6
units.

CSCI 291T - Seminar

Prerequisite: Approval of instructor
Special topics in computer science of current
interest and importance.

Units: 1-3 **Repeatable** for a maximum of 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:

CSCI 298 - Research Project

Prerequisite: Advancement to Candidacy and
CSCI 201. See criteria for 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: 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: 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

Communicative Sciences and Deaf Studies

CSDS 66 - Introduction to Interpreting

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

CSDS 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 their psychological and sociological effects.

Units: 3

CSDS 90 - Deaf American Literature

GE Area/Graduation Requirement: GE
Breadth C2

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

CSDS 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

CSDS 92 - American Sign Language II

GE Area/Graduation Requirement: GE
Breadth C2

Prerequisite: GE Foundation A2, CSDS 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 and
throughout the world.

Units: 3

Course Typically Offered: Fall, Spring

CSDS 93 - American Sign Language III

Prerequisite: CSDS 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.

Units: 4

Course Typically Offered: Fall, Spring

CSDS 94S - American Sign Language IV

Prerequisite: CSDS 91, CSDS 92, and CSDS
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.

Units: 4

Course Typically Offered: Fall, Spring

CSDS 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

CSDS 96 - Linguistics of American Sign Language

Prerequisite: CSDS 91 and CSDS 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 Sign Language to spoken languages.

Units: 3

Course Typically Offered: Fall

CSDS 98 - Introduction to Hard of Hearing and Deaf People

GE Area/Graduation Requirement: GE Breadth D2

Prerequisite: GE Foundation A2 for students in English college -readiness Category III and IV 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.

Units: 3

Course Typically Offered: Fall, Spring

CSDS 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

CSDS 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

CSDS 103 - Speech and Hearing Science

Physiological acoustics, psychoacoustics, acoustic phonetics, and perception of speech.

Units: 3

Course Typically Offered: Fall, Spring

CSDS 105 - Speech Sound Disorders in Children

Prerequisite: CSDS 80, CSDS 95, CSDS 101, and CSDS 102

Seminar on the assessment and treatment of articulation and phonological disorders.

Units: 3

Course Typically Offered: Fall, Spring

CSDS 106 - ASL and English Grammar: Comparative Analysis

Prerequisite: CSDS 91, CSDS 92, CSDS 93, and CSDS 94S with a C grade or better, or permission of instructor.

This course provides introduction to the comparative analysis of two languages, American Sign Language (ASL) and English, which included the study of words and their parts (morphology), the study of rhythms and rhymes (phonology), and the study of the structure and meaning of phrases and sentences (syntax and semantics).

Units: 3

Course Typically Offered: Fall, Spring

CSDS 107 - Observation in Communicative Disorders and Deaf Studies: Speech-Language Pathology

Prerequisite: CSDS 80, CSDS 95, CSDS 101, CSDS 102, and CSDS 105

Corequisite: CSDS 110

Observation of assessment, treatment, parent counseling, and other clinical services in the University Speech and Hearing Clinic or at other professional settings.

Units: 1-3

Course Typically Offered: Fall, Spring

CSDS 109 - Disorders of Language

Prerequisite: CSDS 80, CSDS 95, CSDS 101, CSDS 102

Seminar on language disorders in children; description of clinical subgroups; assessment and treatment.

Units: 3

Course Typically Offered: Spring

CSDS 110 - Diagnostic Procedures

Prerequisite: CSDS 80, CSDS 95, CSDS 101, CSDS 102, and CSDS 105

Corequisite: CSDS 107 (1 unit)

Principles and procedures of diagnostic evaluation of communicative disorders.

Units: 3

Course Typically Offered: Fall, Spring

CSDS 114 - Education of Exceptional Children

Characteristics of exceptional children; diagnostic and instructional programs; legal and certification issues; observation.

Units: 3

Course Typically Offered: Spring

CSDS 115 - Disorders of Fluency and Voice

Prerequisite: a minimum 3.0 GPA in CSDS 80, CSDS 95, CSDS 101, and CSDS 102 with a C grade 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

CSDS 116 - Treatment Procedures in Communicative Disorders

Prerequisite: CSDS 105 or CSDS 109 or CSDS 115

Treatment procedures that apply across disorders of communication; developing client-specific treatment programs.

Units: 3

Course Typically Offered: Spring

CSDS 117 - Behavioral Principles in Assessing and Treating Communicative Disorders

Prerequisite: CSDS 80, CSDS 95, CSDS 101, CSDS 102

Introduction to the principles of behaviorism and applications to the assessment and treatment of communicative disorders.

Units: 3

Course Typically Offered: Fall

CSDS 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

CSDS 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

CSDS 128 - Observation in Audiology

Prerequisite: CSDS 80, CSDS 95, and CSDS 102; priority will be given to seniors.

Corequisite: CSDS 131

Observation of audiologic testing.

Units: 1-3 Repeatable for a maximum of 3 units.

Course Typically Offered: Fall, Spring

CSDS 131 - Principles of Audiology

Prerequisite: CSDS 80, CSDS 95, CSDS 102; priority will be given to seniors.

Corequisite: CSDS 128

Hearing loss and its medical aspects; introduction to hearing conservation; assessment of hearing loss; interpretation of diagnostic test results.

Units: 3

Course Typically Offered:

CSDS 135 - Sign Variations for Classroom Use

Prerequisite: CSDS 91, CSDS 92, CSDS 93

Focus on signing skills and different models/systems of communication used with deaf and hard-of-hearing students in a classroom.

Units: 3

CSDS 136S - American Sign Language V with Service Learning

Prerequisite: CSDS 94S with a C grade or better, CSDS 139 and permission of instructor
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

CSDS 137 - American Sign Language V Lab

Prerequisite: CSDS 94S

Corequisite: CSDS 136S

Principles and linguistic features of American Sign Language. CR/NC grading only.

Weekly Lab/Activity Hours: 2

Units: 1

CSDS 139 - Deaf Culture

GE Area/Graduation Requirement:
Multicultural/International

Prerequisite: GE Foundation and Breadth 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.

Units: 3

Course Typically Offered:

CSDS 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

CSDS 162 - Speech for Deaf and Hard-of-Hearing Children and Youth

Prerequisite: CSDS 80, CSDS 91, CSDS 92, CSDS 95, and CSDS 106

Corequisite: CSDS 96

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.

Units: 3

Course Typically Offered:

CSDS 163 - ASL and English Acquisition by Deaf Children and Youth

Prerequisite: CSDS 80, CSDS 91, CSDS 92, CSDS 95, CSDS 106, CSDS 138, CSDS 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:

CSDS 164 - School Subjects for Deaf and Hard-of-Hearing Children and Youth

Prerequisite: CSDS 80, CSDS 91, CSDS 92, CSDS 95, CSDS 96, CSDS 106, CSDS 141; and permission of instructor.

The process of teaching academic school subjects to deaf and hard-of-hearing children and youth; observation and demonstration.

Units: 3

Course Typically Offered:

CSDS 168 - Observations in Sign Language Studies

Prerequisite: CSDS 66

Corequisite: CSDS 169

Development of practical interpreting skills in professional settings, such as: artistic, educational, health, legal, medical, mental health, rehabilitation, and social services settings.

Units: 3

CSDS 169 - Theory & Proc SL Interpreting

Prerequisite: CSDS 66, CSDS 136S, and CSDS 137, all with a C grade or better.

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:

CSDS 170 - Comparative Linguistic Analysis in Sign Language Interpreting

Prerequisite: CSDS 66 and CSDS 136S with a C grade or better.

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

CSDS 171 - Professional Writing in Communicative Disorders and Deaf Studies

Prerequisite: CSDS 105, CSDS 106, or CSDS 109

Principles of clinical and scientific writing in communicative disorders; exercises in writing professional and scientific reports.

Units: 3

Course Typically Offered: Fall

CSDS 172 - Neural Bases of Speech, Language, and Hearing

Prerequisite: CSDS 80, CSDS 95, CSDS 101, CSDS 102

Neuroanatomical and neurophysiological bases of speech, language, and hearing; clinical implications of neuropathology.

Units: 3

Course Typically Offered: Spring

CSDS 173 - Introduction to Adult Neurogenic Communicative Disorders

Prerequisite: CSDS 172

The definitions, characteristics, and etiologies of adult neurogenic communicative disorders including aphasia, the dementias, motor speech disorders (dysarthria and apraxia), and those associated with right hemisphere damage or traumatic brain injury.

Units: 1-3

CSDS 175I - Internship in Interpreting

Prerequisite: CSDS 169, CSDS 170, and permission of instructor

Interpreting under supervision in professional settings such as: artistic, educational, health, legal, medical, mental health, rehabilitation, and social services settings. CR/NC grading only.

Course Fee: CSU liability insurance fee, \$8

Units: 4 **Repeatable** for a maximum of 12 units.

Course Typically Offered: Fall, Spring

CSDS 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** for a maximum of 6 units.

CSDS 190 - Independent Study

See Academic Placement.

Units: 1-3 **Repeatable** for a maximum of 6 units.

Course Typically Offered: Fall, Spring

CSDS 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

CSDS 201 - Working with Families with Diverse DHH Learners through Case Management

Techniques of collaborating with families with diverse Deaf and Hard of Hearing students (birth to 22) to support home and school connections; Focus on case management skills and positive behavior support systems.

Units: 3

CSDS 202 - Aural Rehabilitation

Prerequisite: CSDS 128 and CSDS 131

Habilitative and rehabilitative procedures to assist people with hearing loss: amplification, speech-reading, auditory training, speech and language training; psycho-socio-educational issues.

Units: 3

CSDS 203 - Graduate Studies and Research Methods in Deaf Education

Prerequisite: statistics (PH 92 or equivalent)

Introduction to graduate studies and methods of research in deaf education; concepts and methods of science and research designs; graduate level professional and scientific writing skills.

Units: 3

CSDS 204 - Seminar in Stuttering

Prerequisite: permission of instructor
Research on stuttering in children and adults; assessment and treatment procedures.

Units: 3

CSDS 206 - Hearing and Speech for Deaf Education Teachers

Support culturally and linguistically diverse Deaf and Hard of Hearing learners' self-advocacy for their communication needs; establishing, maintaining, and demonstrating the use of assistive technology (speech, visual, auditory, and/or tactile); strategies for supporting use and development of spoken language skills in the classroom; and principles of audiological assessment and interpretation.

Units: 3

CSDS 207 - Seminar in Neurogenic Language Disorders

Prerequisite: CSDS 172
Demography, etiology, and symptomatology of aphasia, traumatic brain injury, and dementia; medical and communication assessment; treatment and treatment efficacy research.

Units: 3

CSDS 209 - Professional Issues in Communicative Disorders

Corequisite: CSDS 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

CSDS 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

CSDS 213 - Seminar in Motor Speech Disorders

Prerequisite: CSDS 102 and CSDS 172
Etiology and symptomatology of apraxia, and dysarthria; assessment and treatment.

Units: 3

CSDS 214 - Seminar in Child Language Disorders

Prerequisite: CSDS 95 and CSDS 109
Etiology, symptomatology, assessment, and habilitation of language disorders in infants, children and adolescents.

Units: 3

CSDS 215 - Graduate Seminar in Speech Sound Disorders in Children

Advanced study in speech sound disorders in children. Etiology and assessment of speech sound disorders in children. The design, selection, and use of treatment procedures in clinical and extra-clinical settings.

Units: 3

CSDS 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

CSDS 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

CSDS 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

CSDS 221 - Seminar in Advanced Clinical Methods for Dysphagia and Traumatic Brain Injury

Prerequisite: CSDS 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

CSDS 230 - Advanced Clinical Practice in Speech-Language Pathology - Three + Clinical Hrs/wk

Prerequisite: graduate standing in CSDS
Three or more hours per week of 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.

Course Fee: \$10

Units: 4 **Repeatable** for a maximum of 24 units.

CSDS 231 - Advanced Clinical Practice in Speech-Language Pathology - Two Clinical Hrs/wk

Prerequisite: graduate standing in CSDS
Two to under three hours per week of 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.

Units: 2 **Repeatable** for a maximum of 12 units.

CSDS 232 - Advanced Clinical Practice in Speech-Language Pathology - One Clinical Hr/wk

Less than two hours per week of 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.

Units: 1 **Repeatable** for a maximum of 6 units.

CSDS 250 - Advanced Clinical Practice: Audiology

Prerequisite: graduate standing in CSDS. 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.

Course Fee: \$10

Units: 1-6 **Repeatable** for a maximum of 24 units.

CSDS 255 - Differentiated Instruction and Assessment of DHH Students

Prerequisite: permission of instructor
Develop differentiated instructional strategies to help students who are Deaf and Hard of Hearing meet or exceed grade level expectations, apply knowledge of federal and state special education laws, use formal and informal assessment tools to evaluate Deaf and Hard of Hearing learners' degree of mastery of academic language abilities, and develop and administer culturally and linguistically appropriate assessments to guide instruction and monitor progress.

Units: 3

CSDS 257 - Student Teaching: Speech-Language Pathology

Prerequisite: 5-15 units of CSDS 230 and admission to the credential program.
Corequisite: CSDS 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 CSD 164A)

Course Fee: CSU liability insurance fee, \$8

Units: 1-9 **Repeatable** for a maximum of 9 units.

CSDS 258 - Student Teaching: Deaf and Hard of Hearing

Prerequisite: CSDS 255, CSDS 262, CSDS 263, CSDS 264, 3-12 units of CSDS 260, permission of instructor; and CSET must be taken and passed.
Teaching Deaf and Hard of Hearing diverse learners in the classes under supervision for 8 or

16 weeks at the school for the Deaf or public-school classroom settings. Directed observation, participation, and weekly conference with university supervisor. CR/NC grading only.

Course Fee: CSU liability insurance fee, \$8

Units: 6-12 **Repeatable** for a maximum of 12 units.

CSDS 260 - Advanced Clinical Practice: Deaf Education

Prerequisite: CSDS 96, CSDS 162, CSDS 163, CSDS 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.

Course Fee: \$10 and CSU liability insurance fee, \$8

Units: 1-6 **Repeatable** for a maximum of 12 units.

CSDS 262 - Fundamentals of Teaching Literacy Skills

Prerequisite: permission of instructor
Utilize literacy development strategies with sign languages as the language of instruction and the study of language with support from printed English; Pedagogical theories and multilingual methods for literacy development; academic sign language discourse, assessment of language use, and optimal linguistic environments to enhance Deaf and Hard of Hearing multilingual learners' literacy skills.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Units: 3

CSDS 263 - Fundamentals of Teaching Mathematics Literacy

Prerequisite: permission of instructor
Theory and methods in teaching mathematics for Deaf and Hard of Hearing multilingual learners; Methods for mathematical literacy development and discrete mathematics skills.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Units: 3

CSDS 264 - Integration of Technology Across the Curriculum for DHH Multilingual Learners

Prerequisite: admission to a graduate program or permission of instructor
Appropriate use of advanced technologies/media to enhance teaching and utilizing multilingual approaches in all content areas; accessing and evaluating technology tools; and peer collaboration for developing lessons to meet Deaf and Hard of Hearing (ages birth to 22) learners' diverse learning needs. Students create computer-based projects.

Units: 3

CSDS 267 - Externship in Speech-Language Pathology

Prerequisite: 5-15 units of CSDS 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.

Course Fee: CSU liability insurance fee, \$8

Units: 1-9

CSDS 268 - Externship with Deaf Children and Youth

Prerequisite: CSDS 255, CSDS 262, CSDS 263, CSDS 264, 3-12 units of CSDS 260, permission of instructor; and CSET must be taken and passed.
Student teacher candidate will have the opportunity to plan and implement instructional programs for Deaf and Hard of Hearing multilingual learners in a school for the Deaf for 8 or 16 weeks under supervision. The externship is offered at a school for the Deaf setting. Student teacher candidate will have an option to stay in on-campus residence or stay off-campus closer by for 8 or 16 weeks. CR/NC grading only.

Course Fee: CSU liability insurance fee, \$8

Units: 6-12

CSDS 271 - Foundations of Teaching

Prerequisite: permission of instructor
Explore effective multilingual, multicultural, or cross-cultural teaching principles and methods; overview of the historical and legal practices in the field of Deaf education; professional and the ethical issues, advocacy, and cultural awareness. This is an online course that requires site-based support for clinical experience. (Formerly CSDS 188T)

Units: 3

CSDS 272 - Advanced Studies in Deaf Education

Prerequisite: permission of instructor
Explore the educational needs of Deaf and Hard of Hearing students with various backgrounds related to culture, race/ethnicity, language, communication skills, and learning styles; cultivate Deaf and Hard of Hearing multilingual learners' first and second language acquisition and development, uses data-driven instructional planning, and support Deaf and Hard of Hearing learners' educational services. This is an online course that requires site-based support for clinical experience.

Units: 3

CSDS 273 - Topics and Trends in Curriculum and Instruction

Prerequisite: permission of instructor
Explore prevalent topics and current trends in the field of Deaf Education; meet the needs of culturally and linguistically diverse Deaf and Hard of Hearing students across a variety of educational settings; exploring social emotional, mental health, and mindset of students. This is an online course that requires site-based support for clinical experience.

Units: 3

CSDS 278 - Application of theory into Practice in Deaf Education

Supervised field experience working with deaf and hard-of-hearing students with an emphasis on the integration of applied research and theory 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

CSDS 279 - Induction Plan-based Field Experience in Deaf Education

Prerequisite: CSDS 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

CSDS 290 - Independent Study

See Academic Placement. Approved for RP grading.

Units: 1-3 **Repeatable** for a maximum of 6 units.

CSDS 292 - Seminar in Advanced Clinical Methods in Communicative Disorders

Prerequisite: CSDS 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

CSDS 298 - Individual Research Project

Prerequisite: consent of advisory committee
A written report on an individual or group research project for the master's degree. Approved for RP grading.

Units: 1-6

CSDS 298C - Project Continuation

Prerequisite: CSDS 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

CSDS 299 - Thesis

Prerequisite: Preparation and submission of a thesis
Approved for RP grading.

Units: 2-6

CSDS 299C - Thesis Continuation

Prerequisite: CSDS 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

College of Science and Mathematics

CSM 10 - The Scientific Method

GE Area/Graduation Requirement: GE Foundation A3

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.

Units: 3

Course Typically Offered: Fall

CSM 15 - Evidence Based Decision Making

GE Area/Graduation Requirement: GE Breadth E

Practice in the evaluation and use of quantitative evidence in reasoned decision making. Topics include uncertainty, significance, trends, experimental design, and causality.

Units: 3

Course Typically Offered: Spring

CalState TEACH

CST 431 - Multiple Subject Credential Module 1

Prerequisite: full admission to CalStateTEACH, subject matter authorization
Corequisite: CST 431S
Best practices 21st century teaching and learning, language development, class management, lesson planning, assessment, culturally responsive teaching, making adaptations and UDL for Multiple Subject teacher candidates. (Formerly CST 421)

Course Fee: \$1,000

Units: 12

Course Typically Offered: Fall, Spring

CST 431A - Multiple Subject Credential Module 1A

Prerequisite: CalStateTEACH conditional admission

Corequisite: CST 431S and CST 444

Best practices 21st century teaching and learning, language development, class management for Multiple Subject teacher candidates. CalStateTEACH split term candidates pay tuition for two terms, CST 431A and CST 431B. (Formerly CST 421A)

Course Fee: \$1,000

Units: 6

Course Typically Offered: Fall, Spring

CST 431B - Multiple Subject Credential Module 1B

Prerequisite: CST 431A

Corequisite: CST 431S

Lesson planning, assessment, culturally responsive teaching, making adaptations and UDL for Multiple Subject teacher candidates. (Formerly CST 421B)

Units: 6

Course Typically Offered:

CST 431S - Multiple Subject Supervised Fieldwork

Prerequisite: CST 431, CST 431A, or CST 431B

Supervised early fieldwork participation in an assigned elementary school classroom. (Formerly CST 421S)

Units: 3

Course Typically Offered:

CST 432 - Multiple Subject Credential Module 2

Prerequisite: CST 431 or CST 431A and CST 431B, CST 431S, CSET or equivalent
Corequisite: CST 432S

Best practices in teaching literacy, mathematics, using multiple assessments, data-driven instructional planning, teaching the whole child and supporting students self-advocacy in health. (Formerly CST 422)

Units: 12

Course Typically Offered: Fall, Spring

CST 432A - Multiple Subject Credential Module 2A

Prerequisite: CST 431 or CST 431A and CST 431B, CST 431S, CSET or equivalent

Corequisite: CST 432S

Best practices in teaching literacy and mathematics for Multiple Subject teacher candidates. CalStateTEACH split term candidates pay tuition for CST 432A and CST 432B. (Formerly CST 422A)

Units: 6

Course Typically Offered: Fall, Spring

CST 432B - Multiple Subject Credential Module 2B

Prerequisite: CST 432A

Prerequisite or Corequisite: CST 432S

Best practices using multiple assessments, data-driven instructional planning, teaching the whole child and supporting students' self-advocacy in health. CalStateTEACH split term candidates pay tuition for CST 432A and CST 432B. (Formerly CST 422B)

Units: 6

Course Typically Offered:

CST 432S - Multiple Subject Supervised Initial Student Teaching

Corequisite: CST 432, CST 432A, or CST 432B

Supervised initial student teaching in an assigned elementary school classroom. (Formerly CST 422S)

Units: 3

Course Typically Offered:

CST 433 - Multiple Subject Credential Module 3

Prerequisite: CST 432 or CST 432A and CST 432B; CST 432S

Corequisite: CST 432S

Final course in the CalStateTEACH program, designed for teachers who want to earn a Multiple Subjects Teaching Credential. Best practices in instructional technology, STREAM, History/Social Sciences, empathy and student-based design. (Formerly CST 423)

Units: 9

Course Typically Offered: Fall, Spring

CST 433S - Multiple Subject Supervised Student Teaching

Corequisite: CST 433

Supervised full-day student teaching in an assigned elementary school classroom. (Formerly CST 423S)

Units: 6

Course Typically Offered: Fall, Spring

CST 434S - Multiple Subject Extended Supervision

Prerequisite: enrollment in CalState TEACH program

Supervised student teaching in an assigned elementary school classroom.

Units: 3

Course Typically Offered: Fall, Spring

CST 435 - Multiple Subject Credential for Single Subject Teachers

Prerequisite: current California Single Subject Teaching Credential, multiple subject matter competence (CSET or equivalent), and meet all admission requirements for a credential program Fully online course with face-to-face orientation designed for teachers currently holding a California Single Subject Teaching Credential who want to earn a Multiple Subjects Teaching Credential. Course content includes literacy and mathematics methods and instructional technology.

Units: 12

Course Typically Offered: Fall, Spring

CST 436 - Multiple Subject Credential for Special Education Teachers

Prerequisite: full admission to CalStateTEACH Fully online course with face-to-face orientation designed for teachers with California Education Specialist Credentials who want to earn a Multiple Subjects Teaching Credential. Course content includes mathematics, STREAM, and history/social science.

Units: 12

Course Typically Offered: Fall, Spring

CST 444 - CSET Preparation

Prerequisite: admission to CalStateTEACH program

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

Course Typically Offered:

CST 451A - Year 1 Induction, Semester 1

Prerequisite: valid California Preliminary Credential
Employed teacher candidates develop and implement the individualized learning plan, annotate teaching videos, and engage in a collaborative learning community to deepen understanding and application of the California Standards for the Teaching Profession (CSTP).

Units: 3

Course Typically Offered: Fall

CST 451B - Year 1 Induction, Semester 2

Prerequisite: CST 451A and valid California Preliminary Credential
Employed teacher candidates develop and implement the individualized learning plan, annotate teaching videos, and engage in a collaborative learning community to deepen understanding and application of the California Standards for the Teaching Profession (CSTP).

Units: 3

Course Typically Offered: Spring

CST 452A - Year 2 Induction, Semester 1

Prerequisite: CST 451B
Advanced implementation of the individualized learning plan, in-depth annotated teaching video assignments, reflection, professional growth based on evidence, and culminating project demonstrating thorough understanding and meaningful application of California Standards for the Teaching Profession (CSTP).

Units: 3

Course Typically Offered: Fall

CST 452B - Year 2 Induction, Semester 2

Prerequisite: CST 452A
Advanced implementation of the individualized learning plan, in-depth annotated teaching video assignments, reflection, professional growth

based on evidence, and culminating project demonstrating thorough understanding and meaningful application of California Standards for the Teaching Profession (CSTP).

Units: 3

Food Culinary Science

CULG 50 - Culinary Science I

Introduction to high quality food. Emphasis on principles of food safety, nutrition, food preparation, and sensory evaluation.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Course Fee: 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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Course Fee: \$25

Units: 3

Course Typically Offered: Spring

CULG 65 - Culinary Science III

Prerequisite: CULG 50
Fundamentals of baking including dough, quick breads, yeast breads, pies, pastries, cakes and cookies. Instruction in flours, fillings and ingredients. Topics include baking terminology, tools and equipment use, formula conversions, functions of ingredients, and the use of proper flours.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Course Fee: \$25

Units: 3

CULG 151 - Food Product Development

Prerequisite: CULG 55, FSC 100, and 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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Units: 3

CULG 152 - Techniques for Healthy Cooking

Prerequisite: CULG 50 and NUTR 53 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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Course Fee: \$25

Units: 3

Course Typically Offered: Spring

Dance

DANCE 16 - Introduction to Dance

GE Area/Graduation Requirement: GE Breadth E

Exploration of basic concepts, techniques and styles through study problems, video and critical readings. Dance concert attendance may be required.

Units: 3

Course Typically Offered: Fall, Spring

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

GE Area/Graduation Requirement: GE Breadth E

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.

Units: 3

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** for a maximum of 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** for a maximum of 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** for a maximum of 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** for a maximum of 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** for a maximum of 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** for a maximum of 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** for a maximum of 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** for a maximum of 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 technical skills who can readily adapt to the demands placed on today's dancers.

Units: 2 **Repeatable** for a maximum of 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 160S - 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 in educational and recreational settings. S sections include Service-Learning requirements.

Units: 3

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 - Contemporary Dance Ensemble

Prerequisite: permission of instructor
Held in fall semester and meets for two semesters. An engaging performance and learning course, in which you can experience both the thrills and responsibilities of professional work in a performing arts situation.

Units: 2 Repeatable for a maximum of 14 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 for a maximum of 16 units.

DANCE 170 - Pilates Mat

Study and practice of Pilates Mat sequence incorporating principles of core strength and study of body musculature. Designed to give students an exercise program to supplement any type of physical activity. Emphasizes use of breath, leads to total body strengthening.

Units: 3

Course Typically Offered: Fall, Spring

DANCE 171 - Philosophical Bases and Trends in Dance

GE Area/Graduation Requirement: GE Integration IC

Prerequisite: GE Foundation and Breadth C
The elements and principles common to all arts and their relationship to dance.

Units: 3

DANCE 174T - Topics in Dance

Selected topics may include philosophy, psychology, art, theatre, and music as related to dance.

Units: 1-3

DANCE 175 - World Dance

Prerequisite: This course should be taken no sooner than the term in which 60 units of college coursework are completed
Theories and techniques of world dance forms and their social, cultural, and political significance. Particular attention will be paid to the ways that learning, performing, and watching dance can shape individual and group identities.

Units: 3

DANCE 628T - Dance for a New Generation

Units: 3

DANCE 628T - Topics in Dance Production

Units: 3

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 for a maximum of 9 units.

Course Typically Offered: Fall, Spring

DRAMA 22 - Oral Interpretation of Literature

GE Area/Graduation Requirement: GE Breadth C1

Discovering and communicating intellectual and emotional meaning of the printed page through preparation and presentation of selected readings from prose, poetry, and drama.

Units: 3

Course Typically Offered:

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.

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.

Units: 3

DRAMA 32 - Introduction to Acting

GE Area/Graduation Requirement: GE Breadth E

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-playing in daily life; characterization; text analysis; diverse cultural and generational perspectives; and relaxation, voice, and body techniques.

Units: 3

Course Typically Offered:

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.

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.

Units: 3 **Repeatable** for a maximum of 6 units.

Course Typically Offered: Fall

DRAMA 62 - Theatre Today

GE Area/Graduation Requirement: GE Breadth C1

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.

Units: 3

Course Typically Offered:

DRAMA 75H - Theatre in Contemporary American Culture

GE Area/Graduation Requirement: GE Breadth C1

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

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

Course Typically Offered: Fall, Spring

DRAMA 89 - Projects in Production

Prerequisite: permission of instructor
(Same as DRAMA 189) Group projects in all phases of production in laboratory theatre.

Units: 1-3 **Repeatable** for a maximum of 9 units.

Course Typically Offered: Fall, Spring

DRAMA 108 - Latinx Theatre

(CLAS 108 same as DRAMA 108) Production of Chicano Theatre for major performances. Comedia del Arte, Passion Plays, Theatre of the Absurd, Socially Popular Theatre: Teatro Compesino.

Units: 3

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

(Same as DRAMA 15) Not available for CR/NC grading.

Units: 1-2 **Repeatable** for a maximum of 15 units.

Course Typically Offered:

DRAMA 131 - Fundamentals of Playwriting

Exercises in plotting, characterization, exposition, and stage business, critical analysis, and revision of manuscripts.

Units: 3 **Repeatable** for a maximum of 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** for a maximum of 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** for a maximum of 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 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** for a maximum of 6 units.

Course Typically Offered: Fall, Spring

DRAMA 138A - Children's Theatre

(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) Theatre for Young Audiences Tour; experience touring children's theatre productions for public performances.

Units: 3

Course Typically Offered: Fall, Spring

DRAMA 138B - Children's Theatre

Prerequisite: permission of instructor
(A) Theory, practice, and applications of theatre for children and adolescents; children's plays are examined through reading, discussion, and scene study. (B) Theatre for Young Audiences Tour; experience touring children's theatre productions for public performance.

Units: 3 **Repeatable** for a maximum of 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.

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** for a maximum of 6 units.

DRAMA 163 - Dramatic Literature

GE Area/Graduation Requirement: GE Integration IC

Prerequisite: GE Foundation and Breadth C
Critical analysis of various types and styles of plays with respect to their form, meaning, and theatricality.

Units: 3

Course Typically Offered:

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

DRAMA 179 - Playwrights' Theatre

Prerequisite: permission of instructor
Presentation and readings of original and classical plays.

Units: 1-2

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

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

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.

Units: 3

Course Typically Offered: Spring

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

DRAMA 182A - Stage and Television Lighting

Prerequisite: DRAMA 34 or DRAMA 134A and DRAMA 134B

(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 and DRAMA 134B

(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 AFRS 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.

Units: 3 **Repeatable** for a maximum of 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** for a maximum of 9 units.

DRAMA 188TZ - British Theatre

GE Area/Graduation Requirement: GE Integration IC

Units: 3

DRAMA 189 - Projects in Production

(Same as DRAMA 89)

Units: 1-3 **Repeatable** for a maximum of 9

units.

Course Typically Offered: Fall, Spring

DRAMA 190 - Independent Study

See Academic Placement -- Independent Study. Approved for RP grading.

Units: 1-3 **Repeatable** for a maximum of 6 units.

Course Typically Offered: Fall, Spring

DRAMA 194 - Shakespeare

Corequisite: ENGL 105

(ENGL 189 same as DRAMA 194) Reading and writing analysis of major works of Shakespeare.

Units: 4

Decision Sciences

DS 70 - Quantitative Analysis Support

Prerequisite: Mathematics placement category III or IV

This is a one-unit, credit/no-credit course, employing a stretch model, specifically focused on preparing CSU Math-Ready Category III and IV students for DS 71. (DS 71 being a GE course in Quantitative Reasoning that meets the campus Area B4 graduation requirement.) (Formerly DS 189T)

Units: 1

Course Typically Offered: Fall, Spring

DS 71 - Quantitative Analysis

GE Area/Graduation Requirement: GE Foundation B4

Prerequisite: Mathematics placement category I or II. Students in Mathematics placement category III and IV must pass DS 70 with a CR or MATH 3 with a C or better.

Quantitative formulation and solution of problems in various disciplines, including mathematics of finance, linear programming, probability, and differential calculus.

Units: 3

Course Typically Offered:

DS 71L - Quantitative Analysis Lab

Corequisite: 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 72 - Foundations of Data Science

GE Area/Graduation Requirement: GE Foundation B4

Prerequisite: Math readiness Category I and II. For students at Category III and IV, check specific majors and programs for requirements. Combines perspectives of computational and inferential thinking. Teaches critical concepts and skills of programming and statistical inference. It further delves into social issues surrounding data analysis such as privacy. It utilizes real-world datasets from a variety of disciplines such as business, economic, geographical and social networks.

Units: 3

Course Typically Offered:

DS 73 - Statistical Analysis I

Prerequisite: DS 71 or equivalent.
Recommended: ECON 40 and ECON 50
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

Corequisite: DS 71
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

Prerequisite: 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 and related inferential analysis, nonparametric methods, Bayesian decision theory.

Units: 3

DS 123L - Statistical Analysis II Lab

Corequisite: 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 133 - Business Intelligence with Advanced Spreadsheet

Prerequisite: DS 71, DS 73, IS 52, IS 52L
Prerequisite or Corequisite: DS 123 all with a C grade or better.

Advanced features of spreadsheets (i.e. Excel) for data analysis. It introduces tools and applications of visualization while building pragmatic solutions to business problems. It follows a problem-solution format to explore data analysis and cover best-practices for delivering solutions. The course introduces machine learning concepts and applications with Artificial Intelligence.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Units: 3

Course Typically Offered:

DS 135 - Data Analytics

Prerequisite: DS 123 or permission 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, recursive partitioning, neural networks, and cluster analysis. Management applications and

software tools. (Formerly DS 189T)

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Units: 3

DS 137 - Machine Learning

Prerequisite: DS 123
Machine learning involves studying computer algorithms that automatically improve their performance through experience. Covers core concepts, algorithms, & applications of machine learning in business scenarios. Supervised learning topics such as classification (Naive Bayes, Logistic regression, neural networks, k-NN, decision trees, boosting) and regression (linear, nonlinear, kernel, nonparametric), as well as unsupervised learning (clustering, PCA, dimensionality reduction). Python will be the language used in this course. (Formerly DS 189T)

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Units: 3

Course Typically Offered: Spring

DS 140 - Prescriptive Analytics

Prerequisite: DS 123 or equivalent course or consent of the instructor
This course introduces the prescriptive analytics methodologies, optimization, and simulation. A wide range of topics are covered including linear programming, integer programming, mixed integer linear programming, nonlinear programming, stochastic programming, and simulation models. Emphasize how to develop such models effectively using software tools on real business problems.

Units: 3

Course Typically Offered: Fall, Spring

DS 189T - Topics in Decision Sciences

Prerequisite: 12 units in decision sciences
Theory or application of statistics or operations research applied to current developments.

Units: 1-3 **Repeatable** for a maximum of 6 units.

DS 190 - Independent Study

See Academic Placement -- Independent Study.
Approved for RP grading.

Units: 1-3 **Repeatable** for a maximum of 6 units.

Course Typically Offered: Fall, Spring

DS 195I - 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** for a maximum of 6 units.

Course Typically Offered: Fall, Spring

Educational Administration

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.

Units: 1

EAD 261 - School Leadership for Equity and Improvement

This course encompasses the development of knowledge and skills essential to education organizational leadership, and specifically to develop equity driven educational leaders who can create equitable school environments conducive to student learning and well-being.

Units: 5

EAD 262 - Communities of Practice for Student Learning and Wellbeing

This course seminar is designed to enhance a candidate's ability to develop a student-centered vision of teaching and learning through the advancement of a collaborative culture informed by professional standards focused on student and professional growth.

Units: 3-6

EAD 263 - Professional Learning for Teacher Growth

This is a seminar-based course with additional fieldwork hours focused on cultivating each candidate's capacity in supporting individual and collective teacher growth to impact student learning and well-being in P12 schools.

Units: 4

EAD 264 - Seminar in the Legal Aspects of Education

Prerequisite: 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 administration; local, state, and federal responsibility for financial support of education.

Units: 2

EAD 269 - Site-based Leadership

Prerequisite: 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 - Leadership Seminar and Fieldwork 1

Prerequisite: concurrent enrollment with Preliminary Administrative Services Credential (PASC) Program Semester 1 or Coordinator approval for remedial purposes

This course seminar is designed to develop and support capacity of future P12 school leaders to apply foundational leadership concepts and performance expectations. Moving from theory to practice, candidates will receive coaching and supervision for administrative credentialing requirements of fieldwork and the performance assessment.

Units: 1

EAD 272 - Leadership Seminar and Fieldwork 2

Prerequisite: EAD 261 and EAD 271
Corequisite: EAD 262 Preliminary Administrative Services Credential {PASC} Program or Coordinator approval for remedial purposes

This course seminar is designed to develop and support capacity of future P12 school leaders to apply foundational leadership concepts and performance expectations. Moving from theory to practice, candidates will receive media/video technical assistance, coaching and supervision for administrative credentialing requirements of fieldwork and the performance assessment.

Units: 2

EAD 273 - Site-Based Leadership and Fieldwork 3

Prerequisite: admission into the Preliminary Administrative Services Credential (PASC) Program, EAD 261, EAD 262, EAD 271, and EAD 272

Corequisite: EAD 263

This course seminar is designed to develop the skills and knowledge of a site-based leader in a student-centered approach through the examination of essential practices and processes in: school law, finance, community relations, personnel, parent and family engagement, and support services.

Units: 4

EAD 274 - Instructional Systems and Leadership for Equity

Equip students with the knowledge and skill to create systemic and systematic responses to address 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 276 - Instructional Assessment and Analysis

Prerequisite: admittance to the Educational Leadership and Administration

This course focuses on building knowledge and skills to develop, deploy and sustain a quality school performance measurement system.

Candidates will analyze and use performance data and information to drive next best step decisions and continuous system improvement. (Formerly EAD 280T)

Units: 3

Course Typically Offered: Fall, Spring

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.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

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** for a maximum of 8 units.

EAD 279 - Advanced Administration Fieldwork

Prerequisite: 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

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 interventions aimed at transforming schools and other organizations into world class operations.

Units: 2

EAD 283 - Professional Development Induction

Prerequisite: 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

Prerequisite: 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

Prerequisite: employment in a position requiring an administrative services credential and permission of adviser

Corequisite: EAD 261

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.

Course Fee: CSU liability insurance fee, \$8

Units: 3

EAD 288 - Internship II

Prerequisite: employment in a position requiring an administrative services credential, EAD 261, EAD 262, EAD 272, CI 285, and permission of adviser.

Corequisite: EAD 263 and EAD 269

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.

Course Fee: CSU liability insurance fee, \$8

Units: 3

EAD 290 - Independent Study

See Academic Placement. Approved for SP grading.

Units: 1-3 **Repeatable** for a maximum of 6 units.

EAD 298 - Project

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 graduate study in education. An approved proposal is required for enrollment. Approved for RP grading.

Units: 4

EAD 298C - Project Continuation

Prerequisite: 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

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. 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: EAD 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

Electrical and Computer Engineering

ECE 1 - Introduction to Electrical and Computer Engineering

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.

Weekly Lab/Activity Hours: 3

Units: 1

Course Typically Offered: Fall, Spring

ECE 71 - Introduction to Computational Programming

Prerequisite or Corequisite: MATH 75 or MATH 75A

Introduction to C++ for Computational Engineering Analysis and Design; programming fundamentals, data types, flow control, I/O streams, files, strings and vectors, pointers and dynamic arrays, structures, program organization, scope, multiple source/header files; utilization of an Integrated Development Environment.

Units: 3

Course Typically Offered:

ECE 72 - Introduction to Electrical and Computer Engineering Tools

Prerequisite: MATH 75
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 81 - Computer Algorithms and Data Structures

Prerequisite: ECE 71
IDE based Object-Oriented Programming in C++ using pointers, dynamic vectors, structures, classes, composition, overloading, templates, inheritance, separate compilation, namespaces, and the Standard Template Library. Implementation of searching/sorting algorithms, recursion, data structures, linked lists, stacks, queues, heaps, trees, graphs, and hashing.

Units: 4

Course Typically Offered: Fall, Spring

ECE 85 - Digital Logic Design

Prerequisite: MATH 75

Corequisite: ECE 1 with instructor's permission
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 or Corequisite: ECE 85

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).

Weekly Lab/Activity Hours: 3

Units: 1

Course Typically Offered: Fall, Spring

ECE 90 - Principles of Electrical Circuits

Prerequisite: PHYS 4B

Prerequisite or Corequisite: MATH 77

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.

Units: 3

Course Typically Offered: Fall, Spring

ECE 90L - Principles of Electrical Circuits Laboratory

Prerequisite: PHYS 4B

Prerequisite or Corequisite: ECE 90

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.

Weekly Lab/Activity Hours: 3
Units: 1

Course Typically Offered: Fall, Spring

ECE 91 - Introduction to Electrical Engineering

Prerequisite: PHYS 4B and 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

Prerequisite or Corequisite: ECE 91

Experiments on direct and alternating current circuits, basic electronics, digital logic circuits, and electric machines.

Weekly Lab/Activity Hours: 3
Units: 1

Course Typically Offered: Fall, Spring

ECE 102 - Advanced Circuit Analysis

Prerequisite: ECE 90; MATH 81 or ENGR 101
Prerequisite or Corequisite: ECE 72

AC circuits, transfer functions, two-port circuits, pole-zero analysis, Bode plots, stability concepts, circuit response to periodic inputs, Laplace solution techniques, Fourier series and its transformation, frequency response, passive and active circuits, analog filter design and circuit simulation tools.

Units: 3

Course Typically Offered:

ECE 103E - Professional Development Skills

Prerequisite: junior standing
Attain awareness and development of skills and practices in varied professionalism, including

teamwork and project management, professional responsibility, professional growth, ethical responsibility, and entrepreneurial mindset and skills.

Units: 1

Course Typically Offered: Fall

ECE 106 - Switching Theory and Logical Design

Prerequisite: ECE 85 or equivalent
Analysis and design of sequential digital circuits; state machine analysis; and design, derivation of state graphs and tables for Mealy and Moore sequential machine; state minimization and assignment techniques; one-hot state assignment; algorithmic state machine and SM Charts, control circuit design for arithmetic operations.

Units: 3

Course Typically Offered: Spring

ECE 107 - Digital Signal Processing

Prerequisite: 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 111 - Fundamental Principles of Optical Engineering

Prerequisite: MATH 77; PHYS 4B and PHYS 4BL.
Wave Motion, Electromagnetic Theory, Propagation of Light and Geometrical Optics; Superposition, Polarization, Interference, and Diffraction; Fundamental Principles of Fourier Optics, Coherence Theory, Lasers, and Modern Optics; Introduction to Quantum Optics.

Units: 3

ECE 114 - Physical Electronics

Prerequisite: PHYS 4C
Prerequisite or Corequisite: ECE 128

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 integrated devices. Operation principles of discrete devices; PN junction diode, BJT, MOS FET, and JFET, and optoelectronic devices.

Units: 3

ECE 115 - Computer Organization

Prerequisite: ECE 85; CSCI 40 or ECE 71
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

GE Area/Graduation Requirement: GE Integration ID

Prerequisite: ECE 85; 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:

ECE 118L - Microcontroller Laboratory

Prerequisite: ECE 85L
Prerequisite or Corequisite: ECE 118

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. (Formerly ECE-120L)

Weekly Lab/Activity Hours: 3
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.

Weekly Lab/Activity Hours: 3
Units: 1

ECE 121 - Electromechanical Systems and Energy Conversion

Prerequisite: 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:

ECE 121L - Electromechanical Systems and Energy Conversion Laboratory

Prerequisite: ECE 90L or ECE 91L
Prerequisite or Corequisite: ECE 121

Experiments and computations on direct- and alternating-current machinery and on other energy-conversion devices and associated apparatus.

Weekly Lab/Activity Hours: 3
Units: 1

Course Typically Offered:

ECE 122LE - Entrepreneurial Internet of Things

Prerequisite: ECE 146, senior standing and permission of instructor
Technology skills (layered networking, security, wireless access technologies, cloud computing), Team Building Skills (inclusive team-building, collaboration, community, problem solving, initiative-taking, agility and adaptability, effective written and oral communication), and Entrepreneurial skills (mindset, innovative thinking, personal and social responsibility, project management).

Weekly Lab/Activity Hours: 3
Units: 1

Course Typically Offered: Fall, Spring

ECE 123 - Discrete Time Signals and Systems

Prerequisite: ECE 72 and ECE 102 with a D grade or better.
Modeling and analysis of discrete time signals and systems. Time and frequency domain description of signals and systems. Analysis of system responses due to signals via time domain and transform methods. Discrete time Fourier Series, discrete time Fourier Transforms and Z Transforms. Digital filter design. Analytical methods and simulations using MATLAB.

Units: 3

ECE 124 - Signal and Systems

Prerequisite: ECE 72, 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-transforms; state-equations and linear algebra. Stability analysis. Engineering applications and simulation using Matlab.

Units: 3

Course Typically Offered:

ECE 124L - Signal and Systems Lab

Prerequisite: ECE 90L
Prerequisite or Corequisite: ECE 124

Analysis, mathematical modeling and simulation via MATLAB and generation of signals and system implementations using TIMS/EMONA hardware of discrete time and continuous time signals and linear systems.

Weekly Lab/Activity Hours: 3
Units: 1

Course Typically Offered: Spring

ECE 125 - Probabilistic Engineering Systems Analysis

Prerequisite: 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: ECE 90
Prerequisite or Corequisite: MATH 81 or ENGR 101

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:

ECE 128L - Electronics I Laboratory

Prerequisite: ECE 90L
Prerequisite or Corequisite: ECE 128

Experiments on static and dynamic characteristics of solid state devices in analog and digital electronic circuits; computer solutions as appropriate.

Weekly Lab/Activity Hours: 3
Units: 1

Course Typically Offered: Fall, Spring

ECE 132 - Design of Digital Systems

Prerequisite: 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
Prerequisite or Corequisite: ECE 125

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:

ECE 134L - Communication Engineering Lab

Prerequisite: senior standing in ECE
Prerequisite or Corequisite: ECE 134

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.

Weekly Lab/Activity Hours: 3
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 convolutional channel coding; block decoding and VDA, channel fading and multipath; equalization; 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 or Corequisite: ECE 136

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.

Weekly Lab/Activity Hours: 3
Units: 1

ECE 138 - Electronics II

Prerequisite: 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:

ECE 138L - Electronics II Laboratory

Prerequisite: ECE 128L
Prerequisite or Corequisite: ECE 138

Design oriented experiments to study the characteristics, limitations, and design trade-offs of circuits from ECE 138. Emphasis on circuit and system design to meet preestablished specifications. Design project included; computer solutions as appropriate.

Weekly Lab/Activity Hours: 3
Units: 1

Course Typically Offered:

ECE 140 - VLSI System Design

Prerequisite: ECE 118, ECE 128
Emphasis on the design of a full custom VLSI system using 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 141 - Algorithmic Computations

Prerequisite: CSCI 41
Advanced data structures and analysis of data structure and algorithm performance. Understanding and executing proof theory

including induction. Sorting, searching, hashing, and advanced tree structures and algorithms, particularly dynamic, greedy, and graph algorithms. Course projects require advanced problem-solving, design, and implementation skills.

Units: 3

ECE 141L - Algorithmic Computations Laboratory

Prerequisite: CSCI 41
Corequisite: ECE 141
Implementation of advanced data structures, sorting, searching, hashing, and advanced tree structures and algorithms, with an emphasis on dynamic, greedy, and graph algorithms.

Units: 1

ECE 144 - Embedded Operating Systems

Prerequisite: CSCI 41 and ECE 118
This course aims to provide a fundamental understanding of embedded operating systems. The focus is on the design aspects of modern operating systems composing of the development of embedded operating systems. It will provide the students with the skills to begin understanding and developing practical applications of embedded operating systems.

Units: 3

Course Typically Offered: Fall

ECE 146 - Computer Networks

Prerequisite: 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

Prerequisite: 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 150 - Cloud and Cyber Security

Prerequisite: ECE 118 and ECE 146

Critical information assets and cyber security, cloud security, operating systems security, database security, network security, e-commerce security, security risks, encryption and cryptography, security management, and security models. (Formerly ECE 191T)

Units: 3

Course Typically Offered: Spring

ECE 151 - Electrical Power Systems

Prerequisite: 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

Prerequisite: ECE 151

Prerequisite or Corequisite: ECE 155

Transmission and distribution systems, protection and coordination, stability analysis, voltage and frequency control, system modeling and computer simulation.

Units: 3

ECE 153 - Power Electronics

Prerequisite: 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

Prerequisite: 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

Prerequisite or Corequisite: ECE 155

Hands-on experience in topics in instrumentation and control systems.

Weekly Lab/Activity Hours: 3

Units: 1

ECE 156 - Fundamentals of Cryptography and Computer Network Security

Prerequisite: CSCI 41

Corequisite: ECE 146

Traditional ciphers; background of number theory and finite fields; symmetric key cryptography (block ciphers, stream ciphers, message authentication codes); asymmetric key cryptography (RSA, ElGamal, digital signature, Diffie-Hellman key exchange); cryptanalysis; security protocols (IPsec and TLS/SSL); other related topics.

Units: 3

Course Typically Offered: Spring

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 and 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, traveling-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, Gunn diode 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 - Fundamentals of Machine Learning

Prerequisite: ECE 72 and ECE 125

Linear regression, SSR, gradient descent, overfitting and complexity; training; validation, test data classification problems, decision boundaries, nearest neighbor methods, probability and classification. Bayes optimal decisions, linear classifiers, neural networks, decision tree, ensemble methods, clustering, supervised and unsupervised learning, PCA, SVM.

Units: 3

ECE 173 - Robotics Fundamentals

Prerequisite: ECE 72 or ME 2; ECE

90 and ECE 90L; ECE 85 and ECE 85L or ECE 91 and ECE 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

Prerequisite: ECE 118

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:

ECE 176 - Advanced Digital Logic Design

Prerequisite: ECE 106

Apply modern EDA tools and Verilog-HDL for behavioral and RTL modeling of digital logic circuits. Cover the systematic design of advanced digital systems using FPGA design flow, including functional verification, test-bench generation, timing analysis and design verification of combinational and sequential circuits including finite state machine for datapath control.

Units: 3

Course Typically Offered:

ECE 178 - Embedded Systems

Prerequisite: 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:

ECE 186A - Senior Design I

Prerequisite: 30 units of ECE (see major advising notes) or permission of instructor.
Prerequisite or Corequisite: UDWR

Design projects in electrical and computer engineering.

Units: 1

Course Typically Offered: Fall, Spring

ECE 186B - Senior Design II

Prerequisite: ECE 186A and UDWR with a C grade or better.

Completion of approved design projects in Electrical and Computer Engineering. Project presentation and documentation that requires demonstration of awareness and incorporation of engineering standards in the design of a system that meets realistic constraints. Problem solving, written communication and application

of critical thinking skills.

Units: 3

Course Typically Offered: Fall, Spring

ECE 190 - Independent Study

See Academic Placement -- Independent Study.
Approved for RP grading.

Units: 1-3 **Repeatable** for a maximum of 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** for a maximum of 6 units.

ECE 193I - Electrical and Computer Engineering Cooperative Internship

Prerequisite: permission of advisor
Engineering practice in an industrial or governmental installation. Each cooperative experience usually spans a summer-fall or spring-summer interval. One semester or summer internships are also possible. This course cannot be used to meet graduation requirements. CR/NC grading only.

Units: 1-6 **Repeatable** for a maximum of 12 units.

Course Typically Offered: Fall, Spring

ECE 201 - Systems Modeling and Realization

Prerequisite: 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; data analysis. (Formerly ENGR 201)

Weekly Lecture Hours: 1
Weekly Lab/Activity Hours: 3

Units: 2

ECE 224 - Advanced Signals and Systems

Prerequisite: 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.

Units: 3

ECE 231 - Digital Control Systems

Prerequisite: ECE 155 or permission of instructor
Discrete Time Feedback systems modeling and analysis; stability; digital controller design; digital transformation of analog controllers; implementation techniques, case studies.

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.

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 testability, built-in self-test, boundary scan, and JTAG.

Units: 3

ECE 243 - VLSI Physical Design

Prerequisite: ECE 140 and ECE 176 or permission of instructor

Applying a full VLSI design flow using modern EDA tools for synthesis, place and route, design rule verification, and final tapeout. Relevant issues including CTS, P&R methodologies, power and chip area aware design, chip 1/0 design, and timing closure. Relevant circuit and system level design and simulation.

Units: 3

ECE 244 - Advanced Hardware Design of Computer Arithmetic

Prerequisite: ECE 176 or permission of instructor

Number representations (conventional and non-conventional); fast fixed-point arithmetic operations (addition, multiplication, division); modular arithmetic; introduction to finite fields; binary extension field arithmetic; high throughput arithmetic; low power arithmetic; fault tolerant arithmetic.

Units: 3

Course Typically Offered: Fall

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 of 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 252 - Advanced Power Electronics

Prerequisite: ECE 153 or permission of instructor

Advanced topics in power electronics including rectifiers, inverters as well as multi-level inverters, resonant and soft-switching converters, advanced switching techniques, power converter stability, and control issues in various applications.

Units: 3

ECE 253 - Power Systems Dynamics

Prerequisite: ECE 151 and 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.

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** for a maximum of 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** for a maximum of 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: 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

Preparation, completion, and submission of an acceptable thesis for master's degree. Approved for RP grading.

Units: 3-6

ECE 299C - Thesis Continuation

Prerequisite: 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 25 - Introduction to Economics

GE Area/Graduation Requirement: GE Breadth D2

Prerequisite: GE Foundation A2 for students in English college -readiness Category III and IV
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.

Units: 3

Course Typically Offered:

ECON 40 - Principles of Microeconomics

GE Area/Graduation Requirement: GE Breadth D2

Prerequisite: GE Foundation A2 for students in English college -readiness Category III and IV
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.

Units: 3

Course Typically Offered:

ECON 50 - Principles of Macroeconomics

GE Area/Graduation Requirement: GE Breadth D2

Prerequisite: GE Foundation A2 for students in English college -readiness Category III and IV
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.

Units: 3

Course Typically Offered: Fall, Spring

ECON 100A - Intermediate Microeconomics

Prerequisite: ECON 40 and ECON 50 with a C grade or better.

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

Prerequisite: ECON 40 and ECON 50 with a C grade or better.

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

Prerequisite: ECON 40 and ECON 50 with a 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

Prerequisite: ECON 40, ECON 50, and GE Foundation A2 with a C grade or better.
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 - Introduction to Business Cycles

Prerequisite: ECON 50
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

Prerequisite: ECON 40 and ECON 50 with a C grade or better.
Exploration and colonization to the present; economic factors in development 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

Prerequisite: ECON 40 and ECON 50 with a 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

Prerequisite: ECON 40 and ECON 50 with a 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

Prerequisite: ECON 40 and ECON 50 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 for a maximum of 6 units.

ECON 117 - Environmental Economics

Prerequisite: ECON 40 and ECON 50 with a 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

ECON 119 - Urban & Regional Economics

Prerequisite: ECON 40 and ECON 50 with a 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 with a 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

Prerequisite: ECON 40, ECON 50 and MATH 11 or MATH 101 or DS 73 or AGBS 71 or PSYCH 42 with a 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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Units: 3

Course Typically Offered:

ECON 125 - Introduction to Mathematical Methods for Economics

Prerequisite: ECON 40, ECON 50 and MATH 75 with a C grade or better.
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 with a 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

ECON 135 - Money and Banking

Prerequisite: ECON 40 and ECON 50 with a C grade or better.

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

Prerequisite: ECON 40 and ECON 50 with a 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

GE Area/Graduation Requirement: GE Integration ID

Prerequisite: GE Foundation, Breadth D and PLSI 2

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.

Units: 3

Course Typically Offered: Fall

ECON 150 - Labor Economics

Prerequisite: ECON 40 and ECON 50 with a 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

ECON 152 - Economics of Human Resources

Prerequisite: ECON 40 and ECON 50 with a 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

ECON 162 - Health Economics

Prerequisite: ECON 40 and ECON 50 with a C grade or better.

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

ECON 167 - Contemporary Socioeconomic Challenges

GE Area/Graduation Requirement: GE Integration ID

Prerequisite: GE Foundation, Breadth D and PLSI 2

In-depth analysis and discussion of major socioeconomic 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.

Units: 3

ECON 176 - Economics Themes in Film

GE Area/Graduation Requirement: GE Integration ID

Prerequisite: GE Foundation, Breadth D and PLSI 2

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.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Units: 3

Course Typically Offered: Fall

ECON 178 - International Economics

Prerequisite: ECON 40 and ECON 50 with a C grade or better.

International economic relations; problems and policies in the light of fundamental economic theory.

Units: 3

Course Typically Offered: Fall

ECON 179 - International Political Economy

Prerequisite: ECON 40 and ECON 50 with a C grade or better.

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.

Units: 3

Course Typically Offered: Spring

ECON 181 - Political Economy of Latin America

GE Area/Graduation Requirement: Multicultural/International

Prerequisite: GE Foundation and Breadth 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.

Units: 3

Course Typically Offered: Spring

ECON 183 - Political Economy of the Middle East

GE Area/Graduation Requirement: GE Integration ID

Prerequisite: GE Foundation, Breadth D and PLSI 2

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.

Units: 3

Course Typically Offered: Spring

ECON 185 - Directed Readings

Prerequisite: ECON 40 and ECON 50 with a C grade or better 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

Course Typically Offered: Fall, Spring

ECON 188T - Topics in Macro and International Economics

Prerequisite: ECON 40 and ECON 50 with a C grade or better.

Consideration of in-depth, special topics in Macro and/or International Economics. Topics vary with the needs and interests of students and faculty.

Units: 1-3 **Repeatable** for a maximum of 6 units.

ECON 189T - Topics in Microeconomics

Prerequisite: ECON 40 and ECON 50 with a C grade or better.

Consideration of in-depth, special topics in Microeconomics. Topics vary with the needs and interests of students and faculty.

Units: 1-3 **Repeatable** for a maximum of 6 units.

ECON 190 - Independent Study

Prerequisite: ECON 40 and ECON 50 with a C grade or better.

See Academic Placement -- Independent Study. Approved for SP grading.

Units: 1-3 **Repeatable** for a maximum of 6 units.

Course Typically Offered: Fall, Spring

ECON 191I - Internship in Applied Economics

Prerequisite: ECON 40 and ECON 50 with a C grade or better, senior standing, and 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 **Repeatable** for a maximum of 3 units.

Course Typically Offered: Fall, Spring

ECON 192 - Senior Project

Prerequisite: ECON 40 and ECON 50 with C grade or better, senior status as economics major.

Course consists of directed readings, experiential activities and seminars. The course exposes students to how economics is applied and how economists undertake research and disseminate their findings. Students are also expected to participate in a culminating scholarly activity consistent with integrating concepts, methods, analytical tools and perspectives in economics.

Units: 3

Course Typically Offered: Fall, Spring

Educational Leadership

EDL 501 - Organizational Theory in Complex Organizations

Prerequisite: admission to the program Seminar. Combines alternative 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 structural 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: admission 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

Prerequisite: 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

Prerequisite: admission to the program, EDL 501 and EDL 502

Seminar. Students will develop the philosophical and analytical skills to examine curriculum theory and practice, including the conceptualization of purposes of the organization 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

Prerequisite: admission to the program, EDL 501, EDL 502, EDL 503, EDL 504, EDL 506, EDL 507, EDL 508, EDL 511, 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.

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 Quantitative 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

Prerequisite: admission to the program, EDL 501, EDL 502, EDL 503, EDL 504, EDL 506, EDL 507, EDL 508, EDL 511, 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

EDL 590 - Individual Study

Prerequisite: admission to the program, EDL 501, EDL 502, EDL 503, EDL 504, EDL 506, EDL 507, EDL 508, EDL 511, and permission of the director
Research for individual doctoral graduate students. CR/NC grading only.

Units: 1-18

EDL 599 - Dissertation

Prerequisite: 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 Continuation

Prerequisite: EDL 599

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 and Environmental Sciences

CWI 101 - Colloquium on Water

This course provides students with a broad overview of what is actually happening in the world of water and water policy in the San Joaquin Valley and the state of California by attending a series of live and pre-recorded presentations by practitioners and advocates. Not only is the course intended to help students understand the immediate concerns of people working, broadly, in water, but to also learn about potential employment opportunities.

Units: 3

EES 1 - Natural Disasters and Earth Resources

GE Area/Graduation Requirement: GE Breadth B1

Prerequisite: GE Foundation B4 (except for those with declared majors in the college of Science and Mathematics)

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.

Weekly Lecture Hours: 3
Weekly Lab/Activity Hours: 2
Additional Activity: field trips
Course Fee: \$10

Units: 4

Course Typically Offered: Fall, Spring

EES 1V - Natural Disasters and Earth Resources - Virtual Labs

GE Area/Graduation Requirement: GE Breadth B1

Prerequisite: GE Foundation B4 (except for those with declared major in the college of Science and Mathematics)

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. This course offers virtual labs with alternating in-class and self-paced lab options

Weekly Lecture Hours: 3
Weekly Lab/Activity Hours: 2
Additional Activity: field trips
Course Fee: \$10

Units: 4

EES 2 - Historical Geology

Prerequisite: EES 1

Origins and 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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
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. Non-majors encouraged. CR/NC grading only.

Additional Activity: field trips
Course Fee: \$60

Units: 1

Course Typically Offered: Fall, Spring

EES 4 - Environmental Science

GE Area/Graduation Requirement: GE Breadth B1

Prerequisite: GE 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.

Weekly Lecture Hours: 3
Weekly Lab/Activity Hours: 2
Course Fee: \$10

Units: 4

Course Typically Offered: Fall, Spring

EES 5 - Climate Change: Understanding Global Warming

GE Area/Graduation Requirement: GE Breadth B1

Prerequisite: Recommended: MATH 3 and MATH 3L
This course is an overview of climate change that includes a review of our understanding of present and past climate and its global impact. We will explore the drivers of climate change and how perturbations to elemental cycles facilitate climatological change within a series of important feedback reactions. Our understanding will include the current and historical data that supports quantitative predictions for warming and change in the future. Labs will require a laptop or tablet computer.

Weekly Lecture Hours: 3
Weekly Lab/Activity Hours: 2

Units: 4

Course Typically Offered: Fall, Spring

EES 8H - Natural Disasters and Earth Resources

GE Area/Graduation Requirement: GE Breadth B1

Prerequisite: GE Foundation B4
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. Open to Honor Students Only.

Weekly Lecture Hours: 3
Weekly Lab/Activity Hours: 2
Additional Activity: field trips

Units: 4

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
Prerequisite or Corequisite: CHEM 1A

Properties, relationships, uses origin of minerals; determination of common minerals by physical and other tests.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Additional Activity: field trips
Course Fee: \$35

Units: 3

Course Typically Offered: Fall

EES 30 - Introductory Field Methods

Corequisite: EES 103F
Prerequisite or Corequisite: EES 1, EES 2 or

permission of instructor

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.

Weekly Lecture Hours: 1
Weekly Lab/Activity Hours: 3
Additional Activity: field trips
Course Fee: \$10

Units: 2

Course Typically Offered: Spring

EES 31 - Environmental Sampling Methods

Prerequisite: CHEM 1A, EES 4
This course is an introduction to quantification, assessment, and prediction of environmental processes and interactions. The course will introduce students to sampling strategies and scientific procedures for addressing scientific questions. Ensuring that the procedures and strategies for data collection address defined hypotheses will be a central theme. (Formerly EES 150T)

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.

Additional Activity: field trips
Course Fee: \$25

Units: 3

EES 100 - Analytical Methods in the Earth Sciences

Prerequisite or Corequisite: EES 12

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.

Weekly Lecture Hours: 1
Weekly Lab/Activity Hours: 3
Course Fee: \$10

Units: 2

Course Typically Offered: Fall

EES 101 - Igneous and Metamorphic Petrology

Prerequisite: EES 30, EES 100
Prerequisite or Corequisite: CHEM 1B

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.

Weekly Lecture Hours: 3
Weekly Lab/Activity Hours: 3
Additional Activity: field trips
Course Fee: \$35

Units: 4

Course Typically Offered: Spring

EES 102S - Sedimentology

GE Area/Graduation Requirement: GE Integration IB

Prerequisite: GE Foundation and Breadth B
Prerequisite or Corequisite: EES 30 or EES 31

Origin, classification, textures, fossils, and structures of sedimentary rocks; exploration of the significance of sedimentary geology in society and interactions among Earth's systems. Required field component for field stratigraphy and sedimentology; required service-learning component involving 15+ hours of work with a community-based organization.

Weekly Lecture Hours: 3
Weekly Lab/Activity Hours: 3
Additional Activity: field trips
Course Fee: \$35

Units: 4

Course Typically Offered:

EES 103F - Field Geology

Corequisite: EES 30
Field Geology practicum, including measuring stratigraphic sections, using Brunton pocket transit, and geologic mapping in complex field areas. Graded for EES majors/minors. (Weekend field trips required)

Weekly Lab/Activity Hours: 3 field
Course Fee: \$30

Units: 1

Course Typically Offered:

EES 104W - Scientific Writing and Research Techniques

Prerequisite: EES 1 or EES 4 and GE Foundation A2 with a C grade or better. Organizing and writing the scientific report. Topic include: techniques and conventions in research methods, evaluation approaches, and presentation of results. Peer reviews. Oral presentation and term paper required. Meets the upper-division writing skills requirement for graduation.

Units: 3

Course Typically Offered: Fall

EES 105 - Geomorphology

Prerequisite: EES 1
Prerequisite or Corequisite: EES 30 and EES 31

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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Additional Activity: field trips
Course Fee: \$35

Units: 3

Course Typically Offered:

EES 106 - Structural Geology

Prerequisite: EES 30, EES 101, EES 103F, and PHYS 2A
Corequisite: EES 106F
Prerequisite or Corequisite: MATH 75

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, collecting and producing formal field report.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Additional Activity: field trips
Course Fee: \$10

Units: 3

Course Typically Offered: Fall

EES 106F - Structural Geology Field Methods

Prerequisite: EES 103F
Corequisite: EES 106
Recognition, representation, and interpretation of structural features of the earth's crust in the field. Study of regional tectonics and major structural provinces of the Cordillera in the field. Required field trips for field mapping, collecting and producing formal field report.

Weekly Lab/Activity Hours: 3 field
Course Fee: \$25

Units: 1

Course Typically Offered:

EES 107 - Advanced Field Methods

Prerequisite: EES 102, EES 104W, 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.

Weekly Lab/Activity Hours: 9
Additional Activity: field trips
Course Fee: \$35

Units: 3

Course Typically Offered: Spring

EES 108 - Soil and Water Sciences

Prerequisite: BIOL 1A; CHEM 1B and CHEM 1BL; EES 1 or EES 4; PHYS 2A or PHYS 4A and PHYS 4AL; and 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.

Weekly Lecture Hours: 3
Weekly Lab/Activity Hours: 3
Additional Activity: field trips
Course Fee: \$10

Units: 4

Course Typically Offered: Spring

EES 109 - Atmospheric Science

Prerequisite: BIOL 1A; CHEM 1B and CHEM 1BL; EES 1 or EES 4; PHYS 2A or PHYS 4A and PHYS 4AL; and 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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Additional Activity: field trips
Course Fee: \$10

Units: 3

Course Typically Offered: Spring

EES 110 - Invertebrate Paleontology

Prerequisite: 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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Additional Activity: field trips
Course Fee: \$10

Units: 3

EES 112 - Planet Earth through Time

GE Area/Graduation Requirement: GE Integration IB

Prerequisite: GE Foundation and Breadth 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.

Units: 3

Course Typically Offered: Fall, Spring

EES 113 - Stream Habitat Restoration

Prerequisite: 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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Additional Activity: field trips
Units: 3

EES 114 - Engineering Geology

Prerequisite: EES 1 and MATH 5 or MATH 75 or MATH 75A and MATH 75B
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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Additional Activity: field trips
Course Fee: \$35

Units: 3

Course Typically Offered: Fall

EES 115S - Climate Change Solutions

GE Area/Graduation Requirement: GE Integration ID

Prerequisite: GE Foundation, Breadth D and PLSI 2
Climate change has far reaching consequences extending beyond the environment into political, cultural, and economic dimensions. Students will explore and reflect on climate change actions through an interdisciplinary, community-based lens investigating science pathways; societal transformations; governance; market instruments; technology measures; and methods for ecosystem management. This multifaceted approach includes 15+ hours of service-learning with a community-based organization, which provides a more meaningful, immersive experience, benefitting both students and the community.

Units: 3

EES 117 - Hydrogeology

Prerequisite: EES 1 or EES 4, MATH 75 or MATH 75A, and MATH 75B; recommended courses EES 124 and MATH 76
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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Course Fee: \$35

Units: 3

Course Typically Offered:

EES 118 - Applied Geophysics

Prerequisite: EES 1 and PHYS 2A
Prerequisite or Corequisite: 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, and electrical resistivity. Field instrumentation is used throughout.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Course Fee: \$35

Units: 3

EES 122 - Stratigraphy

Prerequisite or Corequisite: EES 102S

Stratigraphic principles and recognition of stratigraphic units. Emphasis on tectonostratigraphic concepts.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Course Fee: \$35

Units: 3

EES 124 - Geochemistry

Prerequisite: CHEM 1A, CHEM 1B, EES 1, and EES 12. Recommended: EES 101
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.

Units: 3

Course Typically Offered: Fall

EES 125 - Global Paleoclimates

Prerequisite: EES 1 and either 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.

Units: 1-3 **Repeatable** for a maximum of 6 units.

EES 135W - Dinosaurs

Prerequisite: GE Foundation A2 with a C grade or better.

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

Units: 3

Course Typically Offered: Fall, Spring

EES 150T - Studies in Earth Science

Prerequisite: EES 1

Applicable to the geology majors only with prior departmental approval. Earth science topics designed for students minoring in geology, with an interest in earth science, in teacher training, and for elementary and secondary teachers.

Units: 1-3 **Repeatable** for a maximum of 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 time and fossils; interpretation of landscapes and the rock record; and plate tectonics.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Course Fee: \$10

Units: 3

EES 155 - Discovering Earth Science

Prerequisite: EES 1 or EES 112, or instructor's permission

Not applicable to the B.S. in Geology.

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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Course Fee: \$10

Units: 3

EES 160 - Field Studies

Prerequisite: 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.

Additional Activity: field trips
Units: 1-4

EES 167 - Oceans and Atmosphere and Climate

GE Area/Graduation Requirement: GE Integration IB

Prerequisite: GE Foundation and Breadth 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.

Units: 3

Course Typically Offered: Fall, Spring

EES 168 - California's Earth System

GE Area/Graduation Requirement: GE Integration IB

Prerequisite: GE Foundation and Breadth 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.

Units: 3

Course Typically Offered:

EES 177 - Quantitative Methods for Earth Science

Prerequisite: EES 1 and 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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Units: 3

EES 178 - Geostatistics

Prerequisite: EES 1 or EES 4.

Recommended: MATH 75

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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Additional Activity: field trips
Units: 3

Course Typically Offered:

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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Units: 3

EES 185 - Remote Sensing for the Natural Sciences

Prerequisite: GE Breadth B

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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Units: 3

EES 186 - Environmental GIS

Prerequisite: recommended: GEOG 142
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 and restoration, and endangered species. Familiarity with computers required.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Units: 3

Course Typically Offered: Fall

EES 187 - Biogeochemistry

Prerequisite: CHEM 1A, CHEM 1AL, CHEM 1B, CHEM 1BL, BIOL 1A, BIOL 1B. BIOL 1BL; PHYS 2A or PHYS 4A and PHYS 4AL; EES 124, and MATH 75
Comprehensive understanding of the processes that alter the surface of the Earth drawing on the foundational principles of biology, chemistry, and geology. Reactions that reshape modern earth are facilitated by biological, geological, and chemical interaction whose timescale is critical to understanding significance and connectedness to other reactions and cycles.

Weekly Lecture Hours: 3
Weekly Lab/Activity Hours: 3
Units: 4

EES 189 - Seminar in Earth and Environmental Sciences

This course introduces students to current research in our state and community and the stakeholders supporting this research. Class meetings will be composed of invited presentations and discussion of articles from the scientific literature related to our invited speakers. (Formerly EES 130T)

Units: 1

Course Typically Offered: Fall, Spring

EES 190 - Independent Study

See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3 Repeatable for a maximum of 6 units.

Course Typically Offered: Fall, Spring

EES 191 - Environmental Science Capstone

Prerequisite: EES 124, EES 104W
This course surveys significant environmental challenges facing our local communities. We will evaluate scientific inquiry and investigation of environmental questions and design projects that attempt to seek solutions. Students will complete a data-driven study using an evidence-based approach to proving and disproving tractable hypotheses. This work will be presented in a final scientific presentation in oral and written form.

Units: 3

Course Typically Offered: Spring

EES 199 - Undergraduate Thesis

Prerequisite: EES 104W and senior standing
Independent research project in any geology or environmental science topic supervised by a faculty member, and leading to completion of baccalaureate degree.

Units: 3

Course Typically Offered: Fall, Spring

EES 199I - Undergraduate Internship

An academic internship experience providing the ability to integrate previous classroom experience with geoscience and environmentally relevant career opportunities. The internship course requires a minimum of 96 documented hours at a pre-qualified worksite and completion of all academic assignments. Experience is customizable between participating students and employers, providing valuable career development insight and development.

Units: 3 Repeatable for a maximum of 6 units.

EES 199S - Undergraduate Thesis through Service Learning

Prerequisite: EES 102S, EES 104W, EES 108, EES 178, EES 186
Independent, service-learning based, culminating research on any geology or environmental science topic supervised by a faculty member, and leading to completion of a thesis with academic and applied values. Project must meet the specified needs of an identified community partner.

Units: 3

Course Typically Offered: Fall, Spring

EES 200 - Introduction to Scientific Writing and Presenting

This course investigates and implements effective oral and written communication strategies in the geosciences. Weekly written and oral presentations will practice students in the analysis, synthesis and dissemination of their understanding of important geoscience topics tuned to the respective audience.

Units: 3

Course Typically Offered: Fall

EES 201 - Geoscience Writing and Thesis Proposal Design

Prerequisite: graduate standing; EES 200
Graduate-level scientific method, literature review, scientific writing and presentation. Requirements include active discussion participation, oral presentation and written thesis proposal. Satisfies Graduate Writing Skills requirement.

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.

Weekly Lab/Activity Hours: 2
Additional Activity: field trips
Units: 1

EES 206 - Landslides

Landslides is an interactive/discussion course examining geological and engineering aspects of slope movements, slope stability analysis, and landslide mitigation. Current concepts, methods, and techniques applied to landslides for recognition, field study, analysis, and control will be explored. (Formerly EES 251T)

Units: 3

EES 210 - Analysis of Faults and Earthquakes

Prerequisite: 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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
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

Prerequisite: 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

Prerequisite: EES 211, EES 212
Corequisite: EES 214
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.

Units: 2-3 **Repeatable** for a maximum of 6 units.

EES 220 - Groundwater Hydrology

Prerequisite: EES 117. Recommended: MATH 77

Principles of flow through porous and fractured media; groundwater hydraulics in the saturated and unsaturated zones; contaminant transport; introduction to groundwater models.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Course Fee: \$35

Units: 3

EES 230 - Contaminant Transport

Prerequisite: EES 117 or permission of instructor. Recommended: MATH 76 and EES 178

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

Prerequisite: EES 102 and EES 105
Investigation of modern and ancient depositional systems.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Additional Activity: field trips
Course Fee: \$35

Units: 3

EES 232 - Basin Analysis Seminar

Prerequisite: 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

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.

Additional Activity: field trips

Units: 1-3 **Repeatable** for a maximum of 3 units.

EES 251T - Topics in Engineering Geology

Prerequisite: 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 - Hydrological 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.

Weekly Lecture Hours: 1

Weekly Lab/Activity Hours: 6

Additional Activity: field trips

Course Fee: \$35

Units: 3

EES 290 - Independent Study

See Academic Placement - Approved for RP grading.

Units: 1-3 **Repeatable** for a maximum of 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: EES 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: 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 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.

Course Fee: CSU liability insurance fee, \$8

Units: 3

Course Typically Offered:

EHD 50UNITRK - Introduction to Teaching (Unitrack)

Orientation to role of teacher in public schools; observation 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. CR/NC grading only. (Unitrack 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

Prerequisite: 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.

Course Fee: instructional materials fee, \$7; CSU liability insurance fee, \$8

Units: 4

Course Typically Offered: Fall, Spring

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

Corequisite: 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

Corequisite: 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

Corequisite: 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

Corequisite: 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

Corequisite: 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

Corequisite: 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

Corequisite: 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

Corequisite: 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

Corequisite: 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

Corequisite: 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

Corequisite: 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

Corequisite: 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

Corequisite: 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

Corequisite: 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

Corequisite: 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

Corequisite: 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

Corequisite: 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

Corequisite: 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

Corequisite: 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

Prerequisite: admission to the Single Subject Credential Program

Corequisite: SPED 121

Prerequisite or Corequisite: CI 151, CI 152, CI 159

Student teaching in middle school under clinical supervision; assignment requires 3 hours per day, Monday through Friday. CR/NC grading only.

Units: 4

EHD 155B - Student Teaching - Biology

Prerequisite: admission to student teaching, EHD 155A; 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
Prerequisite or Corequisite: CI 161

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 - Physical Science

Prerequisite: admission to student teaching, EHD 155A; 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
Prerequisite or Corequisite: CI 161

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

Prerequisite: admission to student teaching; EHD 155A; senior or postbaccalaureate 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
Prerequisite or Corequisite: CI 161

Supervised teaching in a single subject classroom; assignment is for the full day; five days per week. CR/NC grading only.

Course Fee: CSU liability insurance fee, \$8

Units: 5-10

Course Typically Offered:

EHD 155B - Student Teaching in Secondary School - Agricultural

Prerequisite: admission to student teaching, EHD 155A; 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
Prerequisite or Corequisite: CI 161

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 - Math

Prerequisite: admission to student teaching, EHD 155A, CI 161 (or concurrently, depending on major departmental policy); senior or post

Units: 5-10

Course Typically Offered: Fall, Spring

EHD 155B - Studt Tchg I T

Prerequisite: admission to student teaching, EHD 155A; 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
Prerequisite or Corequisite: CI 161

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

Prerequisite: admission to student teaching, EHD 155A; 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
Prerequisite or Corequisite: CI 161

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 Music

Prerequisite: admission to student teaching, EHD 155A; 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
Prerequisite or Corequisite: CI 161

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 S Sci

Prerequisite: admission to student teaching, EHD 155A; 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
Prerequisite or Corequisite: CI 161

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 Span

Prerequisite: admission to student teaching, EHD 155A; 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
Prerequisite or Corequisite: CI 161

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 Spch

Prerequisite: admission to student teaching, EHD 155A; 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
Prerequisite or Corequisite: CI 161

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 Typ

Prerequisite: admission to student teaching, EHD 155A; 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
Prerequisite or Corequisite: CI 161

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 160A - Part Time Multiple Subject Student Teaching

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.

Units: 5

Course Typically Offered: Fall, Spring

EHD 160B - Part Time Multiple Subject Student Teaching

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.

Units: 5

Course Typically Offered: Fall, Spring

EHD 170 - Field Study C

Clearance for Final Student Teaching. 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 from 1/2 hour before school starts until at least 1/2 hour after the school day ends. CR/NC grading only.

Units: 9

Course Typically Offered: Fall, Spring

EHD 170A - Field Study C Seminar

Corequisite: EHD 170 or EHD 170ECE or EHD 160A and EHD 160B
This seminar accompanies Field Study C 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: 2

EHD 170ECE - Field Study C

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.

Course Fee: CSU liability insurance fee, \$8

Units: 9

Course Typically Offered:

EHD 174 - Field Study A/Grades 4-8

Prerequisite: admission to the Multiple Subject Credential program
Corequisite: LEE 173
Prerequisite or Corequisite: CI 171 and LEE 172

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.

Course Fee: CSU liability insurance fee, \$8

Units: 2

Course Typically Offered:

EHD 174A - Field Study A Seminar

Corequisite: 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

Corequisite: LEE 173ECE
Prerequisite or Corequisite: CI 171ECE and LEE 172ECES

Supervised field experience in a 4-8 classroom; includes lesson planning and teaching reading and mathematics. CR/NC grading only.

Course Fee: CSU liability insurance fee, \$8

Units: 2

Course Typically Offered: Fall, Spring

EHD 178 - Field Study B/Grades K-3

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. (Formerly EHD 110)

Course Fee: CSU liability insurance fee, \$8

Units: 2

Course Typically Offered: Fall, Spring

EHD 178A - Field Study B Seminar

Corequisite: 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

Prerequisite: completion of Phase I Multiple Subject Credential, Early Childhood Education Program (CI 171ECE, LEE 172ECES, LEE 173ECE, EHD 174ECE, CI 176)
Corequisite: LEE 177ECE and LEE 148
Phase 2 supervised field experience in culturally and linguistically diverse preschool and K-3 classrooms. CR/NC grading only.

Course Fee: 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** for a maximum of 9 units.

English

ENGL 1L - Writing Tutorial

Prerequisite or Corequisite: 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.

Units: 1

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

GE Area/Graduation Requirement: GE Foundation A2

Prerequisite: ENGL 5A with a C grade 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.

Units: 3

Course Typically Offered:

ENGL 10 - Accelerated Academic Literacy

GE Area/Graduation Requirement: GE Foundation A2

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. Enrollment in ENGL 10 not allowed if already received passing grade in ENGL 5A.

Units: 3

Course Typically Offered:

ENGL 10H - Honors Accelerated Academic Literacy

GE Area/Graduation Requirement: GE Foundation A2

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 English composition requirement.

Units: 3

ENGL 20 - Introduction to Literature

GE Area/Graduation Requirement: GE Breadth C2

Prerequisite: GE 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.

Units: 4

Course Typically Offered:

ENGL 21 - Genre

Prerequisite: ENGL 5B or ENGL 10
Genre explores the history, issues, and trends in genres, considered as authorial technique, audience expectation, and interpretive strategy. May examine forms (like poetry, prose, drama) or topics (such as memoir, mystery, science fiction).

Units: 4

Course Typically Offered: Fall, Spring

ENGL 30 - Readings in World Literature

GE Area/Graduation Requirement: GE Breadth C2

Prerequisite: GE Foundation A2
Readings in World Literature provides a chronological survey of World Literature. Discussion and written analyses of influential poetry, drama, fiction and nonfiction. Examines diverse historical and cultural contexts, literary traditions and movements, canon formation and marginalized texts.

Units: 4

Course Typically Offered: Fall, Spring

ENGL 31 - Readings in British Literature

Prerequisite: 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 5B or ENGL 10
Chronological 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

GE Area/Graduation Requirement: GE Breadth C1

Beginning workshop in the writing of poetry; appropriate reading and analyses.

Units: 4

Course Typically Offered:

ENGL 42H - Creative Writing

GE Area/Graduation Requirement: GE Breadth C1

Open to students in the Smittcamp Family Honors College only. Beginning workshop in the writing of poetry and fiction; appropriate readings and analysis.

Units: 4

ENGL 43 - Fiction Writing

GE Area/Graduation Requirement: GE Breadth C1

Beginning workshop in the writing of fiction; appropriate reading and analyses.

Units: 4

Course Typically Offered:

ENGL 44 - Creative Nonfiction Writing

GE Area/Graduation Requirement: GE Breadth C1

Beginning workshop in lyric essay, memoir, and other forms of creative nonfiction writing; appropriate readings and analysis.

Units: 4

Course Typically Offered:

ENGL 50T - Studies in Literature

Prerequisite: ENGL 5B 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

ENGL 70 - Public Writing and Argument

Studies rhetorical situations, rhetorical appeals, argumentative discourses, and how writing incites social change. Practices using analytic lenses such as rhetorical criticism, discourse analysis, and critical race theory to analyze public writing and to construct arguments about local community issues.

Units: 4

Course Typically Offered: Fall, Spring

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

GE Area/Graduation Requirement: GE Integration IC

Prerequisite: GE Foundation and Breadth 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.

Units: 4

Course Typically Offered:

ENGL 102 - Masterpieces of English Literature

GE Area/Graduation Requirement: GE Integration IC

Prerequisite: GE Foundation and Breadth 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.

Units: 4

Course Typically Offered:

ENGL 102WZ - Masterpieces of English Literature

GE Area/Graduation Requirement: GE Integration IC

Prerequisite: GE Foundation and Breadth 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. Meets the upper-division writing skills requirement for graduation.

Units: 4

ENGL 103 - Masterpieces of American Literature

GE Area/Graduation Requirement: GE Integration IC

Prerequisite: GE Foundation and Breadth 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.

Units: 4

Course Typically Offered:

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 - Textual Analysis

Prerequisite: ENGL 31 and ENGL 32
The theory and practice of textual analysis. Examination of the concept of textual traditions; consideration of research methods; application of critical theory to analyzing texts and writing criticism. Required for English majors.

Units: 4

Course Typically Offered:

ENGL 106W - Writing in English Studies

Prerequisite: GE Foundation A2 with a C grade or better.

Methods for reading, writing, research, and inquiry within the discipline of English Studies. Develops literacies to join academic and public conversations. Meets the upper-division writing skills requirement for graduation.

Units: 4

Course Typically Offered:

ENGL 112 - World Literature: Ancient

GE Area/Graduation Requirement: GE Integration IC

Prerequisite: GE Foundation and Breadth 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.

Units: 4

Course Typically Offered: Fall, Spring

ENGL 113 - World Literature: Medieval and Renaissance

GE Area/Graduation Requirement: GE Integration IC

Prerequisite: GE Foundation and Breadth 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.

Units: 4

Course Typically Offered: Fall, Spring

ENGL 114 - World Literature: Modern

GE Area/Graduation Requirement: GE Integration IC

Prerequisite: GE Foundation and Breadth 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.

Units: 4

Course Typically Offered: Fall, Spring

ENGL 115W - Literature of the New Testament

Prerequisite: GE Foundation A2 with a C grade or better.

(ENGL 115W same as PHIL 133W) 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 literacy techniques.

Units: 4

Course Typically Offered: Fall

ENGL 117W - Writing from Children's Lit

Prerequisite: GE Foundation and Breadth 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:

ENGL 118 - World Literature: Modern and Contemporary

Analysis of texts (written in/translated into English) from c. 1900 to now, from Africa, Asia, Europe, and Latin America. Possible topics: literary interactions with modernism, postcolonialism, migration, globalization, environmentalism, technology, new media, evolving identities (cultural, gender, sexual), and re-envisioning the future.

Units: 4

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.

Units: 4

Course Typically Offered:

ENGL 132S - Rhetoric, Grammar, and Writing Instruction

Prerequisite or Corequisite: ENGL 131 or permission of instructor

Rhetoric, grammar, and writing instruction for future English teachers. Focus on structures of English language and role of grammar and usage in writing instruction. Students apply and extend learning through at least 30 hours of service-learning with local literacy organizations.

Units: 4

Course Typically Offered: Fall, Spring

ENGL 133 - Texts Teachers Teach

Prerequisite: ENGL 105

Corequisite: ENGL 131

Explore practical ideas for bringing new texts or new ways to teach canonical texts into standardized curriculum environments for middle and high school English Language Arts classrooms. Includes contemporary Young Adult literature, world mythology and folklore, Shakespeare, poetry, and non-fiction.

Units: 4

Course Typically Offered: Spring

ENGL 141 - African American Masterpieces of American Literature

Prerequisite: ENGL 105 with a C grade or better.

Prerequisite or Corequisite: ENGL 105 for English majors only.

This course provides a general overview of African Americans within U.S. culture and politics. It explores reconfigurations of "blackness" away from antithetical definitions of humanity and citizenship, and towards self-determination through strategic production of art and literature. (Formerly ENLG 169T.)

Units: 4

Course Typically Offered: Spring

ENGL 142 - American Indian Masterpieces of American Literature

Prerequisite: ENGL 105 with a C grade or better.

Prerequisite or Corequisite: ENGL 105 for English majors only.

This course provides a general overview of American Indian writers within U.S. culture and politics. We will read fiction, poetry, non-fiction prose, creative non-fiction, and genre/popular fiction dealing with topics as related to American Indian lives.

Units: 4

Course Typically Offered: Spring

ENGL 143 - Asian American Masterpieces of American Literature

Prerequisite: ENGL 105 with a C grade or better.

Prerequisite or Corequisite: ENGL 105 for English majors only.

This course provides a general overview of Asian American writers within U.S. culture and politics. It explores how Asian American writers negotiate a myriad of identity formations that rebut many mainstream racialized depictions and how their writing resists restrictive legal contexts.

Units: 4

Course Typically Offered: Spring

ENGL 144 - Masterpieces of Chicana Literature

Prerequisite: ENGL 105 with a C grade or better.

Prerequisite or Corequisite: ENGL 105 for English majors only.

This course provides a general overview of Chicana writers within U.S. culture and politics. These texts are artistic representations of historical processes that led to a non-white racial formation, proletarianization, and the systemic disenfranchisement of U.S. peoples of Mexican descent.

Units: 4

Course Typically Offered: Fall

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:

ENGL 147 - English Renaissance Literature

Corequisite: ENGL 105

Analysis of texts, 1500-1660. Topics may include Renaissance humanism, Reformation, Counter-Reformation, 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:

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:

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:

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:

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:

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:

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:

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: GE Foundation A2 with a C grade or better.

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

Course Typically Offered: Fall, Spring

ENGL 160WZ - Writing Workshop

Prerequisite: GE Foundation A2 with a C grade or better.

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

ENGL 161 - Advanced Writing of Poetry

Prerequisite: ENGL 41

Intensive workshop in the writing of poetry; appropriate readings and analyses.

Units: 4

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

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

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

ENGL 165 - Craft and Technique in Creative Writing

Prerequisite: ENGL 41, ENGL 43, or ENGL 44

Undergraduate seminar in the craft and techniques of creative writing designed to provide intensive study of current and traditional formal, stylistic, and technical issues and developments in poetry, fiction, and creative nonfiction.

Units: 4

Course Typically Offered: Fall

ENGL 166 - Literary Publishing and Editing

Undergraduate seminar focused on supervised project-based editorial work with online and/or print literary publications.

Units: 4

Course Typically Offered: Spring

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:

ENGL 168T - Women and Literature

Prerequisite: ENGL 20

(WGSS 168T same as ENGL 168T.) 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** for a maximum of 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

Course Typically Offered: Spring

ENGL 170W - Writing and Teaching Writing

Prerequisite: GE Foundation A2 with a C grade or better.

Designed for future secondary teachers in all disciplines. Practice writing rhetorically using writing processes. Instruction in teaching writing across content areas. Does not apply to the English major or minor, Meets the upper division writing skills requirement for graduation.

Units: 4

Course Typically Offered: Fall, Spring

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 172 - Advanced Rhetoric and Composition

Introduces students to the interrelated fields of rhetoric, composition, and literacy studies

(R/C/L). Familiarizes students with key terms, texts, histories, pedagogical theories, major figures/scholars, conversations, and debates in the discipline of rhetoric and composition.

Units: 4

Course Typically Offered: Spring

ENGL 173 - Cultural Rhetoric(s)

Examines American Ethnic Rhetoric(s) through debates about the social histories of rhetoric. Traces classical, neoclassical, and/or contemporary rhetoricians. First-hand investigation of primary cultural artifacts, including review of archival studies, rhetorical/feminist historiography, and/or qualitative research approaches.

Units: 4

Course Typically Offered: Spring

ENGL 174 - Popular Fiction

GE Area/Graduation Requirement: GE Integration IC

Prerequisite: GE Foundation and Breadth 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.

Units: 3

Course Typically Offered:

ENGL 174Z - Popular Fiction - London in Literature

GE Area/Graduation Requirement: GE Integration IC

Units: 3

ENGL 175T - Topics in Rhetoric and Writing Studies

This course focuses on special topics in Rhetoric and Writing studies, such as rhetorical theory and history, writing theory or pedagogy, literacy studies, research methods, genre studies, writing assessment, teaching with technology.

Units: 4

ENGL 176T - Topics in Genre Film: Form and Function

Discussion and close written analyses of selected topics, including such types as comedies, musicals, horror films, westerns, etc.

Units: 1-4

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.

Units: 4

Course Typically Offered: Fall

ENGL 178 - Lesbian & Gay Literature

Prerequisite: ENGL 178 Prerequisite: ENGL 105 and WGSS 178 Prerequisite: WGSS 11 or permission of the instructor. (ENGL 178 same as WGSS 178) 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 Literature and Writing

Corequisite: ENGL 105
Discussion and written analysis of selected writing by authors from diverse multiethnic backgrounds, such as indigenous, Latinx, Black and Asian diaspora.

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

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

ENGL 184 - Chaucer

Corequisite: ENGL 105
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
Corequisite: ENGL 186I during the first semester of enrollment in the 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 186I - Internship in English

Prerequisite: permission of instructor
No more than 2 units of ENGL 186I 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:

ENGL 187 - Milton

Corequisite: ENGL 105
Reading, discussion, and written analyses of the major works of John Milton.

Units: 4

Course Typically Offered: Spring

ENGL 188T - Single Author

Reading and written analysis of major works of a single author.

Units: 4 **Repeatable** for a maximum of 8 units.

ENGL 189 - Shakespeare

Corequisite: ENGL 105
(ENGL 189 same as DRAMA 194.) Reading and writing analysis of major works of Shakespeare.

Units: 4

Course Typically Offered:

ENGL 189Z - Shakespeare

Units: 4

ENGL 190 - Independent Study

See Academic Placement -- Independent Study.
Approved for SP grading.

Units: 1-3 **Repeatable** for a maximum of 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.

Units: 1-4

Course Typically Offered: Fall, Spring

ENGL 192A - Practicum in Tutoring Writing I

Prerequisite: permission of instructor
Pedagogy, theory and practical discussions of tutoring writing. Required as a sequence of courses of undergraduate writing tutors every semester of tutoring at the Writing Center.

Units: 1

Course Typically Offered: Fall

ENGL 192B - Practicum in Tutoring Writing II

Prerequisite: ENGL 192A
Pedagogy, theory and practical discussions of tutoring writing. Examines closely theories informing practices tutors were introduced to in ENGL 192A of responding to writing, group facilitation and utilizing writing for learning. Introduction to specific methods of one-on-one tutoring. Required for undergraduate tutors tutoring at the Writing Center second semester.

Units: 1

Course Typically Offered: Spring

ENGL 192C - Practicum in Tutoring Writing III

Prerequisite: ENGL 192A and ENGL 192B
Pedagogy, theory and practical discussions of tutoring writing. Examination of demands of various writing genres and publishing styles as disciplinary practices; tutoring grammar in the context of genre. Required for undergraduate tutors tutoring at the Writing Center third semester.

Units: 1

Course Typically Offered: Fall

ENGL 192D - Practicum in Tutoring Writing IV

Prerequisite: ENGL 192A, ENGL 192B, and ENGL 192C
Pedagogy, theory and practical discussions of tutoring writing. Examines transferability of tutoring practices to classroom and professional settings, building a collaborative community and practices. Required for undergraduate tutors tutoring at the Writing Center forth semester.

Units: 1

Course Typically Offered: Spring

ENGL 192E - Practicum in Tutoring Writing V

Prerequisite: ENGL 192A, ENGL 192B, ENGL 192C, and ENGL 192D
Pedagogy, theory and practical discussions of tutoring writing. Survey of variety of tutoring and small group practices, history of writing centers, collaborative practices. Required for undergraduate tutors tutoring at the Writing Center fifth semester.

Units: 1

Course Typically Offered: Fall

ENGL 193 - Seminar in English Studies

Prerequisite: ENGL 105, ENGL 106W
Research methods and critical theories applied to individual projects on intersections of creative texts, rhetorical analyses, pedagogy, social movements, intellectual history, and cultural traditions. Required for the English Major.

Units: 4

ENGL 194T - Seminar in Women and Literature

(ENGL 194T same as WGSS 194T) 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

ENGL 195 - Senior Seminar

Prerequisite: ENGL 105, ENGL 106W, ENGL 179
Undergraduate senior seminar focused on culminating projects and/or theses as well as career and post-graduate preparation in their chosen area of emphasis.

Units: 4

Course Typically Offered: Spring

ENGL 196 - Literary Studies Senior Seminar

Prerequisite: ENGL 105
Undergraduate senior seminar focused on culminating projects and/or theses as well as

career and post-graduate preparation in their chosen area of emphasis.

Units: 4

Course Typically Offered: Fall, Spring

ENGL 197 - Senior Project in English Studies

Prerequisite: ENGL 105
English Education Option students apply English Studies to explore a key question in the field related to professional aspirations, present results in essay, multi-media, or online format, and complete a reflective essay. Evaluate their learning in the field to prepare a professional portfolio that reflects on and demonstrates their achievement of subject matter competency in English Education to support their professional goals.

Units: 1

ENGL 205 - Research Methods in English Studies

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** for a maximum of 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 for a maximum of 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 for a maximum of 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 for a maximum of 12 units.

ENGL 250T - Seminar in Literature

Prerequisite: 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 Repeatable for a maximum of 16 units.

ENGL 261 - Seminar: Writing Poetry

Prerequisite: permission of instructor
Advanced individual projects in the writing of poetry.

Units: 4 Repeatable for a maximum of 16 units.

ENGL 263 - Seminar: Writing Fiction

Prerequisite: permission of instructor
Advanced individual projects in the writing of fiction.

Units: 4 Repeatable for a maximum of 16 units.

ENGL 265 - Seminar: Writing Creative Nonfiction

Prerequisite: permission of instructor
Advanced individual projects in the writing of creative nonfiction.

Units: 4 Repeatable for a maximum of 16 units.

ENGL 270 - Seminar in Teaching Writing: Theory and Practice

Prerequisite: 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 for a maximum of 8 units.

ENGL 280T - Seminar in Critical Theory

Prerequisite: major or minor in English; permission of instructor
Seminar in literary criticism (for example, Literary Critics).

Units: 4 Repeatable for a maximum of 12 units.

ENGL 281 - Current Writing Theory

Prerequisite: 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 282A - Practicum in the Teaching of Writing I

Prerequisite: permission of instructor
Practical discussions of the daily work of teaching college writing including: modeling lesson planning, presenting demonstrations of teaching, and discussing pedagogical issues. Required of all Teaching Associates teaching ENGL 5A for the first time. May count toward the MA degree in Rhetoric and Writing Studies.

Units: 1

ENGL 282B - Practicum in the Teaching of Writing II

Prerequisite: permission of instructor
Practical discussions of the daily work of teaching college writing including: supporting decisions about lesson planning, building coherence and scaffolding of activities, and discussing the opportunities and challenges of classroom teaching. Required of all Teaching Associates teaching ENGL 5B for the first time. May count toward the MA degree in Rhetoric and Writing Studies.

Units: 1

ENGL 282C - Practicum in the Teaching of Writing III

Prerequisite: permission of instructor
Practical discussions of the daily work of teaching college writing including: designing and implementing ENGL 10 curriculum, teaching analysis from a rhetorical perspective, teaching researched argumentative writing. Required of all Teaching Associates teaching in their third semester of teaching. May count toward the MA degree in Rhetoric and Writing Studies.

Units: 1

ENGL 282D - Practicum in the Teaching of Writing IV

Prerequisite: permission of instructor
Practical discussions of the daily work of teaching college writing including: implementing more advanced pedagogical theory and practices, scaffolding major writing

project assignments, and integrating formative assessment techniques. Required of all Teaching Associates teaching in their fourth semester of teaching. May count toward the MA degree in Rhetoric and Writing Studies.

Units: 1

ENGL 282E - Practicum in the Teaching of Writing V

Prerequisite: permission of instructor
Practical discussions of the daily work of teaching college writing including: experimenting with new approaches and/or observing teaching from new perspectives. Required of all Teaching Associates teaching in their fifth semester of teaching. May count toward the MA degree in Rhetoric and Writing Studies.

Units: 1

ENGL 282F - Practicum in the Teaching of Writing VI

Prerequisite: permission of instructor
Practical discussions of the daily work of teaching college writing including: how to represent teaching in professional contexts for employment and within the discipline. Required of all Teaching Associates teaching in their sixth semester of teaching. May count toward the MA degree in Rhetoric and Writing Studies.

Units: 1

ENGL 282G - Practicum in the Teaching of Writing VII

Prerequisite: permission of instructor
Practical discussions of the daily work of teaching writing in secondary schools including implementing academic literacy practices to support articulation between secondary and college writing. May count toward the MA degree in Rhetoric and Writing Studies.

Units: 1-2

ENGL 282H - Practicum in the Teaching of Writing VIII

Prerequisite: permission of instructor
Practical discussions of the daily work of teaching writing in secondary schools including advanced integration of the teaching of expository writing through developing practices and activities for rhetorical reading, writing, and grammar. May count toward the MA degree in Rhetoric and Writing Studies.

Units: 1-2

ENGL 282I - Practicum in the Teaching of Writing IX

Prerequisite: permission of instructor
Practical discussions of the daily work of teaching writing in secondary schools across the disciplines, focusing on disciplinary literacies and designing assignments and activities to support the teaching of reading and writing in various disciplinary contexts. May count toward the MA degree in Rhetoric and Writing Studies.

Units: 1-2

ENGL 283A - Practicum in Tutoring of Writing I

Prerequisite: permission of instructor
Pedagogy, theory and practical discussions of tutoring writing. Required for graduate tutors during their first semester at the Writing Center. This course introduces students to the practice of responding to writing and group facilitation. Readings in responding to writing, tutoring methods, collaborative learning.

Units: 1

ENGL 283B - Practicum in Tutoring of Writing II

Prerequisite: permission of instructor
Pedagogy, theory and practical discussions of tutoring writing. Required for graduate tutors during their second semester at the Writing Center. This course examines the underlying theories that inform the practices tutors were introduced to in the previous semester of responding to writing, group facilitation and utilizing writing for learning. Introduction to specific methods of one-on-one tutoring.

Units: 1

ENGL 283C - Practicum in Tutoring of Writing III

Prerequisite: permission of instructor
Pedagogy, theory and practical discussions of tutoring writing. Required for graduate tutors during their third semester at the Writing Center. This course is designed to deepen the knowledge and practices developed so far by examining the pedagogical and theoretical foundations that guide tutoring practices. Building a tutoring community and mentoring new tutors, as well as transferring tutoring practices into classroom settings and campus tutoring events.

Units: 1

ENGL 283D - Practicum in Tutoring of Writing IV

Prerequisite: permission of instructor
Pedagogy, theory and practical discussions of tutoring writing. Required for graduate tutors during their fourth semester at the Writing Center. This course is designed to examine the transferability of tutoring practices into classroom and professional settings (brainstorming sessions, meetings, writing collaboration), building a collaborative community and practices, conveying the knowledge and experience gained as a tutor for professional presentation and purposes. Strengthening a collaborative community at the Writing Center through mentoring and sharing of practices and experiences.

Units: 1

ENGL 283E - Practicum in Tutoring of Writing V

Prerequisite: permission of instructor
Pedagogy, theory and practical discussions of tutoring writing. A required course for Writing Center graduate writing tutors during their fifth semester at the Writing Center. This course is designed to deepen knowledge and practices developed so far by examining the pedagogical and theoretical foundations that guide our tutoring practices, survey the history of writing centers and administrative practices.

Units: 1

ENGL 286 - 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

ENGL 290 - Independent Study

See Academic Placement -- Independent Study. Approved for RP grading.

Units: 1-3 **Repeatable** for a maximum of 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.)

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: 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: ENGL 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

Engineering Interdisciplinary

ENGR 1 - Introduction to Engineering

An active learning orientation to the various disciplines of the engineering and construction management professions, the design process,

functioning effectively on a team, ethical responsibilities of engineers and construction managers, and best practices for success in a degree program within the LCOE.

Units: 1

Course Typically Offered: Fall, Spring

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, sophomore LCOE Honors students. Lectures, guests, discussions, workshops. Leadership training in engineering/construction management professions. Topics: Proactive/interactive leadership, decision making, goal setting, project planning, leadership 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, sophomore 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.

Units: 1-4 **Repeatable** for a maximum of 12 units.

ENGR 101 - Applied Engineering Analysis I

Prerequisite: MATH 77
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 105WE - Engineering and Entrepreneurship

Prerequisite: GE Foundation A2 with a C grade or better.
Preparation of resumes, letters of transmittal, technical reports, research proposals, progress 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.

Units: 3

ENGR 110 - Engineering Literacy and Pedagogy

Orientation to engineering; engineering practice, communications, and design process; engineering history and implications in society; technical documentation and resources; project selection criteria and sustainability.

Units: 3

ENGR 116 - Fluid Mechanics

Prerequisite: CE 20; MATH 81 or ENGR 101
Prerequisite or Corequisite: ME 112

(ENGR 116 same as ME 116) 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 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

Prerequisite: graduate status in engineering (ENGR 205 same as CE 205). 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

Prerequisite: 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 of the root locus method for analysis and synthesis. Frequency response, logarithmic and polar plots, Nyquist's criterion, stability characteristics, phase margin and gain margin.

Units: 3

Enology

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. Non-major students must be 21 years of age - State law.

Course Fee: \$50

Units: 3

Course Typically Offered: Fall, Spring

ENOL 105 - Advanced Sensory Evaluation of Wines

Prerequisite: ENOL 45, ENOL 110
Techniques of sensory science and wine tasting applied to the perception of wine styles, quality attributes, difference, and preference testing. The lab provides hands-on experience in applying concepts and tasting techniques. Statistical concepts.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Course Fee: \$40

Units: 3

Course Typically Offered: Fall, Spring

ENOL 110 - Grape and Wine Chemistry

Prerequisite or Corequisite: CHEM 150 or ENOL 168

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:

ENOL 115 - Analytical Methods for Wine I

Prerequisite: ENOL 110
Corequisite: ENOL 164
Prerequisite or Corequisite: CHEM 105

Fundamental principles and practices of methods of analysis for grape juice and wine during crush. Emphasis on practical laboratory procedures

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 4
Units: 4

Course Typically Offered: Fall

ENOL 125 - Wine Microbiology

Prerequisite: ENOL 15, ENOL 110; CHEM 150 or ENOL 168
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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 6
Units: 4

Course Typically Offered:

ENOL 140 - Regulations: Wine and Brandy

Prerequisite: 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

Prerequisite: ENOL 15
Evaluation, use, location, operation, and repair of winery equipment. Winery safety. Safety equipment required.

Weekly Lecture Hours: 1
Weekly Lab/Activity Hours: 3
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 for a maximum of 12 units.

ENOL 163 - Fermentation

Prerequisite or Corequisite: ENOL 15

Vinification/Fermentation Laboratory practice at the university's Enology Pilot Plant and Ag Lab Winery. Individual winemaking. Students must supply their own grapes.

Weekly Lecture Hours: 1
Weekly Lab/Activity Hours: 5
Units: 3

Course Typically Offered: Fall

ENOL 164 - Wine Analysis and Production

Prerequisite: ENOL 110, ENOL 151, ENOL 163
Corequisite: ENOL 115
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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 6
Units: 4

Course Typically Offered:

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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Additional Activity: field trips
Units: 3

Course Typically Offered:

ENOL 168 - Introduction to Vine, Grape and Yeast Biochemistry

Prerequisite: CHEM 3B OR CHEM 8
Designed for Viticulture and Enology students. Introductory concepts of biochemical macromolecules and structures related to the function of grape vines, yeast, and winemaking. Formerly ENOL 162T.

Units: 3

ENOL 170E - 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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Units: 3

Course Typically Offered: Spring

ENOL 173 - Wine Marketing

Prerequisite: ENOL 45
Marketing principles as applied to wine. Role of wholesalers, distributors, retailers, cooperatives. Advertising. Regulations. Interstate and international trade.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Units: 3

ENOL 175 - Winery Management

Prerequisite: ENOL 15 and permission of instructor
Physical properties of a winery; administrative organization; leadership; personnel; winery operational management and financial analysis; and 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 Repeatable for a maximum of 4 units.

Course Typically Offered: Fall, Spring

ENOL 190 - Independent Study

See Academic Placement -- Independent Study. Approved for RPgrading.

Units: 1-3 Repeatable for a maximum of 6 units.

Course Typically Offered: Fall, Spring

ENOL 194I - 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 Repeatable for a maximum of 4 units.

Course Typically Offered:

ENOL 199 - Undergraduate Seminar

Oral presentations of topics of current interest in enology, wine grapes, and fermentation science.

Units: 1

Course Typically Offered: Fall

Entrepreneurship

ENTR 81E - 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.

Units: 3

Course Typically Offered: Fall, Spring

ENTR 151E - 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 153E - Business Plan Model

Prerequisite: ENTR 81E, ENTR 151E, and 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.

Units: 3

Course Typically Offered: Fall, Spring

ENTR 155E - Managing the New Venture

Prerequisite: ENTR 81E and ENTR 153E
Special problems of small businesses: initiation, financing, operations. Class projects: studying local business operations; preparing business plans and financial requests.

Units: 3

ENTR 157E - New Venture Laboratory

Prerequisite: ENTR 151E and ENTR 153E
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.

Units: 3

Course Typically Offered: Spring

ENTR 161E - Urban Entrepreneurship

Prerequisite: ENTR 81E
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 163E - Social Entrepreneurship

Explores current thoughts, and trends, and challenges in the emerging field of social entrepreneurship. Guest lectures and site visits.

Units: 3

Course Typically Offered: Fall

ENTR 165E - Corporate Entrepreneurship

Prerequisite: ENTR 81E
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 167E - Franchising

Prerequisite: ENTR 81E
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.

Units: 3

ENTR 169E - Family Business Management

Prerequisite: ENTR 81E
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** for a maximum of 9 units.

ENTR 190E - Independent Study

See Academic Placement -- Independent Study. Approved for SP grading.

Units: 1-3 **Repeatable** for a maximum of 6 units.

Course Typically Offered: Fall, Spring

ENTR 193E - Supv Work Exper

Units: 1

ENTR 195IE - 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** for a maximum of 6 units.

Course Typically Offered: Fall, Spring

Educational Research and Evaluation

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:

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** for a maximum of 9 units.

ERE 190 - Independent Study

See Academic Placement -- Independent Study. Approved for RP grading.

Units: 1-3 **Repeatable** for a maximum of 6 units.

Course Typically Offered: Fall, Spring

ERE 220 - Research in Education

Prerequisite: ERE 153
Seminar in education research methodology; library resources; critiquing data collection, analyses, interpretation in research articles; writing research papers; for elementary and secondary teaching, early childhood, reading, administration, counseling, special education, related fields.

Units: 3

Course Typically Offered: Fall, Spring

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 collecting 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** for a maximum of 6 units.

ERE 287 - Qualitative Research Methods in Education

Theoretical and ethical concepts and various qualitative designs are presented. Students develop researchable questions, reflect on biases, gain field site access, collect several types of qualitative data, code and analyze data, build trustworthiness and credibility, and write rich research stories.

Units: 3

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 289 - Statistical Modeling

Prerequisite: ERE 153, ERE 220
This course teaches statistical modeling concepts including simple regression, multiple regression, part and partial correlation, effect and dummy coding, linear and curvilinear regression, logistic regression, canonical correlation, and hierarchical linear modeling. Analyzing data and interpreting results are emphasized.

Units: 3

ERE 290 - Independent Study

See Academic Placement --Independent Study. Approved for RP grading.

Units: 1-3 **Repeatable** for a maximum of 6 units.

ERE 298 - Project

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 graduate study in education. An approved proposal is required for enrollment. Approved for RP grading.

Units: 4

ERE 298C - Project Continuation

Prerequisite: 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

Prerequisite: 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: ERE 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

Forensic Behavioral Sciences

FBS 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. (Formerly CRIM 114)

Units: 3

FBS 153 - Psychology of Criminality

GE Area/Graduation Requirement: GE Integration ID

Prerequisite: GE Foundation, Breadth D and PLSI 2

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. (Formerly CRIM 153)

Units: 3

Course Typically Offered:

FBS 154 - Fundamentals of Forensic Behavioral Sciences

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. (Formerly CRIM 154)

Units: 3

FBS 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. (Formerly CRIM 155)

Units: 3

FBS 156 - Forensic Behavioral Sciences and the Law

Prerequisite: CRIM 2

Introduction to law, courts, and legal procedure as they relate to the use of the forensic behavioral sciences. Particular emphasis is placed on the use, misuse, and non-use of relevant forensic behavioral science information in legal decision-making. (Formerly CRIM 156)

Units: 3

FBS 157 - Interviewing and Interrogation

Prerequisite: CRIM 2

Topic overview, evaluation of recent research, and development of fundamental skills in three areas critical to investigations: interviewing witnesses, detecting deception, and interrogating suspects.

Units: 3

Course Typically Offered: Fall, Spring

FBS 159T - Topics in Forensic Behavioral Sciences

Prerequisite: CRIM 2

Critical examination of the role of forensic behavioral sciences relative to specific issues, practices, and/or policies in the criminal justice system. (Formerly CRIM 159T)

Units: 3

Course Typically Offered: Fall, Spring

Family and Consumer Science

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.

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.

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** for a maximum of 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 for a maximum of 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 for a maximum of 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 for a maximum of 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 for a maximum of 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 conferences, no formal class meetings. Approved for RP grad

Units: 2-3 Repeatable for a maximum of 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: FCS 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: FCS 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

Finance

FIN 30 - Personal Financial Planning

GE Area/Graduation Requirement: GE Breadth E

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.

Units: 3

Course Typically Offered: Fall, Spring

FIN 120 - Principles of Finance

Prerequisite: ACCT 4A and DS 71
Prerequisite or Corequisite: BA 105W or ENGL 160W

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:

FIN 121 - Intermediate Financial Management

Prerequisite: FIN 120 with a C grade or better.
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: FIN 120 with a C grade or better.
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; FIN 120 with a C grade or better.

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:

FIN 128 - Investments

Prerequisite: FIN 120 with a C grade or better. 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 129A - Student-Managed Investment Funds I

Prerequisite: FIN 120 with a C grade or better. Analysis of investment strategies; analysis of investment vehicles; fundamental and technical analyses; assessing market and portfolio risks; evaluation of portfolio performance and business valuation. (Formerly FIN 129)

Units: 3

Course Typically Offered: Fall, Spring

FIN 129B - Student-Managed Investment Funds II

Prerequisite: FIN 129A with a B grade or better and permission of instructor. Management of endowment funds; analysis of investment policy statements; analysis of investment styles; analysis of investment strategies; active vs. passive investing; portfolio protection and hedging; evaluation and reporting of portfolio performance.

Units: 3

Course Typically Offered: Fall, Spring

FIN 131E - Entrepreneurial Finance

Prerequisite: FIN 120 with a C grade or better. 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:

FIN 133 - Futures Markets

Prerequisite: FIN 120 with a C grade or better. 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: FIN 120 with a C grade or better. 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

Prerequisite: 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 147 - Retirement Planning

Fundamentals of retirement planning; qualified and nonqualified plans. Course will cover material required to prepare for the Certified Financial Planning designation. Topics include retirement needs and objectives, government regulations, various business and individual retirement plans, plan funding and investing, plan installation, administration, and termination, and social security.

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: FIN 120 with a C grade or better. 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

Introductory survey to fundamentals of real estate law, appraisal, brokerage, finance and investment. This course fulfills one of the statutory educational requirements for a real estate salesperson or broker license in the state of California.

Units: 3

Course Typically Offered: Fall

FIN 181 - Real Estate Appraisal

Prerequisite: FIN 120 with a C grade or better 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: Spring

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: FIN 120 with a C grade or better 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
This course provides an overview of the theory and practice of real estate market analysis. The course covers a wide range of topics, including selection and evaluation of potential development sites, supply and demand analysis, demographic data collection and analysis, as well as market trends in various real estate sectors.

Units: 3

FIN 186 - Business and Real Estate Economics

Prerequisite: 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:

FIN 189T - Topics in Finance

Topics covered in this course include money and credit management, savings and investment strategies, analysis of financial securities including debt and equity instruments, mutual funds and exchange traded funds, fundamental and technical analysis, and retirement and estate planning.

Units: 3 **Repeatable** for a maximum of 9 units.

FIN 190 - Independent Study

See Academic Placement -- Independent Study.
Approved for RP grading.

Units: 1-3 **Repeatable** for a maximum of 6 units.

Course Typically Offered: Fall, Spring

FIN 195I - Internship

Prerequisite: permission of internship coordinator
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. Requires 150 hours of work at a pre-qualified, academically-related work station (business, government or nonprofit agency).

Units: 3 **Repeatable** for a maximum of 6 units.

Course Typically Offered: Fall, Spring

Fashion Merchandising

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

FM 21 - Fashion Merchandising Fundamentals

Introduction to Fashion Merchandising with an overview of fashion products and the merchandising system.

Units: 3

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

FM 122T - Topics in Clothing and Textiles

Topics relating to clothing, textiles, and fashion merchandising. Some topics may have labs.

Units: 1-4 **Repeatable** for a maximum of 12 units.

FM 123 - Fashion Analysis

Prerequisite: junior standing
Analysis of the characteristics and nature of fashion: color, line, texture, production and principles of design applied to fashion apparel. Investigation of methods in which these factors affect product pricing and consumer decision making. Quality evaluation of apparel is included.

Units: 3

FM 124 - Textile Finishing

Prerequisite: FM 20
Finishing, dyeing and printing techniques, material and equipment. Evaluation through standard laboratory tests.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Units: 3

FM 126 - History of Costume, from Ancient Sumerians to 1900

Prerequisite: junior standing
The Study of the evolution of western costume from Ancient Sumerians to 1900. The course is a multidisciplinary study of economic, technological, artistic, cultural and societal information on the evolution of men's and women's apparel prior to the 20th Century.

Units: 3

FM 127 - Fashion Merchandising

Prerequisite: recommended: ACCT 3 or ACCT 4A
Principles of fashion merchandising as applied in manufacturing and retail business

organizations; study of planning, developing, and presenting product lines.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Units: 3

FM 128 - Visual Merchandising

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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Units: 3

FM 129 - History of Costume

Prerequisite: junior standing
Prerequisite or Corequisite: FM 126

The study of the evolution of western costume from 1900 to current day. The course is a multidisciplinary study of economic, technological artistic, cultural and societal influences on the evolution of men's and women's apparel, beginning with the 20th Century through current day fashion.

Units: 3

Course Typically Offered: Spring

FM 130E - Fashion Study Tours

An in-depth study of industrial, retail, and wholesale sites in California. Field experiences are included to ensure optimum learning opportunities.

Weekly Lecture Hours: 1
Weekly Lab/Activity Hours: 4
Course Fee: \$250

Units: 3

FM 133 - Textile/Apparel Economics

Prerequisite: ECON 40 or AGBS 1
Prerequisite or Corequisite: FM 20

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

FM 134 - Fashion Retail Buying

Prerequisite: GE Foundation B4.
Recommended: ACCT 4A
Basic principles and applications of retail mathematics as related to fashion retailing. Focus on quantitative concepts used in merchandising fashion goods with an emphasis on profitability.

Units: 3

FM 140E - Fashion Entrepreneurship

Prerequisite: junior standing
Applying entrepreneurship principles to fashion apparel and accessories, from identifying new enterprise opportunities to analyzing feasibility of business ideas by in-depth analysis of fashion consumers, markets, and merchandising strategies.

Units: 3

FM 190 - Fashion Merchandising Independent Study

Prerequisite: junior standing, MKTG 100S, FM 127, and BA 105W or ENGL 160W
Independent study is offered to give students experience in planning and outlining a course of study on their own initiative under departmental faculty supervision. Course of study will 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.

Units: 1 Repeatable for a maximum of 6 units.

FM 195I - Fashion Merchandising Internship

Prerequisite: approval from Internship Director
An academic internship experience provides the student with the ability to blend previous classroom experience with business career opportunities. The internship course will require a minimum of 150 documented hours at a pre-qualified worksite and completion of all academic assignments. Successful students will gain an awareness of skill levels needed in the current workforce and uncover areas of future development areas.

Units: 3

Food and Nutrition

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.

Units: 3

FN 221T - Topics in Food Science and Nutrition

Prerequisite: 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 for a maximum of 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

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.

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 298 - Project

Prerequisite: prior advancement to candidacy. See criteria for Thesis and Project. Preparation, completion, and submission of an acceptable project for the master's degree.

Units: 2-6 **Repeatable** for a maximum of 6 units.

FN 298C - Project Continuation

Prerequisite: FN 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

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: FN 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

French

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.

Units: 3

Course Typically Offered: Fall, Spring

FREN 1B - Elementary French

GE Area/Graduation Requirement: GE Breadth C2

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.

Units: 3

Course Typically Offered:

FREN 2A - French for Communication

GE Area/Graduation Requirement: GE Breadth C2

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.

Units: 3

Course Typically Offered:

FREN 2B - French for Communication

GE Area/Graduation Requirement: GE Breadth C2

Prerequisite: G.E. Foundation A2; FREN 2A or equivalent recommended
Second year course that emphasizes speaking and reading skills.

Units: 3

Course Typically Offered:

FREN 4 - Reading and Writing

Prerequisite: 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:

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** for a maximum of 6 units.

Course Typically Offered:

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.

Units: 3 **Repeatable** for a maximum of 6 units.

Course Typically Offered: Fall, Spring

FREN 109 - French Literature, Culture, and Society from the Middle Ages to Today

GE Area/Graduation Requirement: GE Integration IC

Prerequisite: GE Foundation and Breadth 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.

Units: 3

Course Typically Offered: Fall, Spring

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

Prerequisite: 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** for a maximum of 6 units.

FREN 124 - The French Esthetic

GE Area/Graduation Requirement: GE Integration IC

Prerequisite: GE Foundation and junior or senior standing
Analysis of French etiquette, culture, cuisine and fashion through an exploration of French values, family structures and daily life.

Units: 3

Course Typically Offered:

FREN 125 - French and Francophone Film

GE Area/Graduation Requirement: GE Integration IC

Prerequisite: GE Foundation and Breadth C and junior or senior standing
Analysis of French themes and culture through French-language films.

Units: 3

Course Typically Offered:

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** for a maximum of 6 units.

Course Typically Offered: Spring

FREN 149 - Voices of Africa

GE Area/Graduation Requirement: GE Integration IC

Prerequisite: GE Foundation and Breadth 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.

Units: 3

Course Typically Offered: Fall, Spring

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** for a maximum of 6 units.

FREN 190 - Independent Study

See Academic Placement -- Independent Study. Approved for RP grading.

Units: 1-3 **Repeatable** for a maximum of 6 units.

FREN 290 - Independent Study

See Academic Placement -- Independent Study. Approved for RP grading.

Units: 3 **Repeatable** for a maximum of 6 units.

Food Science

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

Prerequisite: 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.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Additional Activity: field trips

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.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 3

Units: 3

Course Typically Offered:

FSC 112 - Food and Dairy Chemistry

Prerequisite: 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.

Weekly Lecture Hours: 3

Weekly Lab/Activity Hours: 3

Units: 4

Course Typically Offered:

FSC 115 - Food Analysis

Prerequisite: 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.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 3

Units: 3

FSC 120 - Quality Assurance in the Food and Dairy Industries

Prerequisite: 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.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 3

Additional Activity: field trips

Units: 3

Course Typically Offered: Spring

FSC 125 - Food and Dairy Microbiology

Prerequisite: 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.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 6

Additional Activity: field trips

Units: 4

Course Typically Offered: Spring

FSC 141 - Fruit, Vegetable, and Edible Oil Processing

Prerequisite: senior standing, FSC 41, FSC 178

Characteristics of raw fruits and vegetables. Application of storage and thermal dehydration, refrigeration/freezing, waste management, and packaging principles that influence quality. Computer applications.

Weekly Lecture Hours: 3

Weekly Lab/Activity Hours: 3

Additional Activity: 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.

Weekly Lecture Hours: 3

Weekly Lab/Activity Hours: 3

Additional Activity: field trips

Units: 4

Course Typically Offered: Fall

FSC 144 - Food Engineering

Prerequisite: 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.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 3

Additional Activity: field trips

Units: 3

Course Typically Offered: Fall, Spring

FSC 162T - Topics in Food Science

Prerequisite: FSC 41 and CULG 50

Topics relating to food science. Some topics may have labs.

Units: 1-4 **Repeatable** for a maximum of 12 units.

FSC 178 - Food Laws, Regulations, Inspection, and Grading

Prerequisite: 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.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Units: 3

Course Typically Offered: Fall

FSC 180 - Undergraduate Research

Prerequisite: junior/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

Prerequisite: permission of instructor
See Academic Placement - Independent Study.
Approved for RP grading.

Units: 1-3 **Repeatable** for a maximum of 6 units.

Course Typically Offered: Fall, Spring

FSC 192 - Readings and Conference

Individually directed readings; reports and evaluation. (Hours arranged)

Units: 1-3

Course Typically Offered: Fall, Spring

FSC 193I - Supervised Work Experience

Prerequisite: 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

Prerequisite: 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 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

Prerequisite: FSM 60, FSM 131, CULG 50
Preparation and service in quantity food service 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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Course Fee: \$25

Units: 3

Course Typically Offered: Fall

FSM 134 - Cost Analysis in Food Systems Management

Prerequisite: FSM 133 and 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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Units: 3

Course Typically Offered: Spring

FSM 135 - Institutional Experience

Prerequisite: FSM 134 or permission of instructor; health clearance and health and accident insurance required
Supervised work experience in food systems management.

Weekly Lecture Hours: 1
Weekly Lab/Activity Hours: 4
Units: 3

Course Typically Offered: Fall, Spring

FSM 162T - Topics in Food Systems Management

Prerequisite: CULG 50, FSM 131, NUTR 53
Topics relating to food systems management.

Units: 1-4 **Repeatable** for a maximum of 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** for a maximum of 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 193I - Supervised Work Experience

Prerequisite: permission of instructor
Supervised work experience in food systems management. A health clearance may be required. CR/NC grading only.

Course Fee: CSU liability insurance fee, \$8

Units: 1-6

Course Typically Offered: Fall, Spring

Graduate Studies

GS 296 - Interdisciplinary Colloquium

Prerequisite: consent of coordinator
Seminar in Interdisciplinary Special Major issues, allowing discussion with a broad-based, cross-disciplinary emphasis.

Units: 1-3

GS 298 - Interdisciplinary Project

Prerequisite: see university criteria for thesis and project
Preparation, completion, submission, and/or demonstration of an original project appropriate to the student's area of specialization. Creativity shall be a prime factor. Written documentation and an abstract is required. Approved for RP grading.

Units: 2-6

GS 298C - Project Continuation

Prerequisite: GS 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

GS 299 - Interdisciplinary Thesis

Prerequisite: see university criteria for thesis and project; consent of thesis chair
Preparation, completion, and submission of an acceptable thesis for the interdisciplinary master's degree. Approved for RP grading.

Units: 2-6

GS 299C - Graduate Program Continuation

Prerequisite: GS 299
For continuous enrollment while completing the culminating experience.

Units: 0

Graphic Design

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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Course Fee: \$30

Units: 3

Course Typically Offered: Fall

GD 37 - Graphic Design: Computer Imaging

Prerequisite: 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.

Weekly Lab/Activity Hours: 6
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.

Weekly Lab/Activity Hours: 6
Course Fee: \$30

Units: 3

Course Typically Offered: Fall, Spring

GD 42 - Graphic Design

Prerequisite or Corequisite: GD 35 and GD 41

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.

Weekly Lab/Activity Hours: 6
Course Fee: \$30

Units: 3

Course Typically Offered: Fall, Spring

GD 50 - Web Design

Prerequisite or Corequisite: GD 41 and GD 39

Introduction to web design for graphic designers, focusing on current web standards. Emphasis on page structure, typography and user experience design principles.

Weekly Lab/Activity Hours: 6
Course Fee: \$30

Units: 3

Course Typically Offered: Fall, Spring

GD 60 - Illustration Techniques

Prerequisite: ID 43 or ART 20
Introduction to various traditional drawing and painting techniques. Emphasis on the application of rendering solutions to graphic design problems.

Weekly Lab/Activity Hours: 6
Course Fee: \$5

Units: 3

Course Typically Offered: Fall, Spring

GD 109T - Topics in Design

Prerequisite: permission of instructor
Topics in specific areas of graphic design, illustration and interactive multimedia not normally covered in regular courses. Topics may include but are not limited to virtual environments, augmented reality, letterpress, 3D printing, environmental design, sustainable design, design activism, community-engaged design, data design, experimental illustration, or other.

Weekly Lab/Activity Hours: 6
Units: 1-3 **Repeatable** for a maximum of 9 units.

GD 135 - History of Graphic Design

Prerequisite: 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.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Course Fee: \$30

Units: 3

Course Typically Offered: Fall, Spring

GD 142 - User Experience and Interface Design

Prerequisite: GD 42, GD 50

An Intermediate web design class for graphic designers. The class focuses on user experience design methods and practices to improve the usability and aesthetic of a user interface. Students will use user experience methods to engineer the whole experience surrounding a digital environment, emphasizing how data-driven research can improve the layout, hierarchy, typography, and color scheme of a user interface.

Units: 3

Course Typically Offered: Fall

GD 150 - Advanced Web Design

Prerequisite: GD 50

Advanced application and exploration of web standards-based web design. Emphasis on user experience design methods, and responsive design solutions.

Weekly Lab/Activity Hours: 6

Course Fee: \$30

Units: 3 Repeatable for a maximum of 6 units.

Course Typically Offered: Fall, Spring

GD 153 - Data and Design

Prerequisite: GD 150

Introduction to programming as a platform for graphic design. Emphasis on fundamental programming concepts, data visualization, creative exploration, and web integration.

Weekly Lecture Hours: 6

Course Fee: \$30

Units: 3 Repeatable for a maximum of 6 units.

Course Typically Offered: Spring

GD 155 - Designing for Interactions

Prerequisite: GD 150, GD 157

Integration and development of interactive content for web/multimedia, including new upcoming technologies. Emphasis on experimentation & concept development driven by UX & usability research. Introduction to innovative technologies, & UX design research skills/methods. Students will develop self-driven projects over the course of the semester focusing on research, UX, and development/implementation of new technology.

Weekly Lab/Activity Hours: 6

Course Fee: \$30

Units: 3 Repeatable for a maximum of 6 units.

Course Typically Offered: Fall

GD 157 - Motion Graphics

Prerequisite or Corequisite: GD 150

Understand and implement animation principles for time based media. Application of software to create visually integrated, concept driven motion graphics and interactive web animations. Emphasis on research, including usability research, and production of advanced time based media projects.

Units: 3 Repeatable for a maximum of 6 units.

GD 158 - Design Practicum

Prerequisite: GD 150, GD 155

Collaborative design and development of a real-world digital product for a non-profit partner. Emphasis on the iterative design process loop of research and analysis, prototyping, visual design, and evaluation.

Units: 3 Repeatable for a maximum of 6 units.

Course Typically Offered: Spring

GD 159 - Immersive Design

Prerequisite: GD 150 and GD 157 or permission of the instructor

This course explores 3D digital modeling and its incorporation into augmented and virtual environments. Students will research and explore different ways to implement augmented and virtual reality.

Weekly Lab/Activity Hours: 6

Units: 3 Repeatable for a maximum of 6 units.

Course Typically Offered: Fall

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.

Weekly Lab/Activity Hours: 6

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.

Weekly Lab/Activity Hours: 6

Course Fee: \$30

Units: 3

Course Typically Offered: Fall, Spring

GD 167 - Advanced Illustration

Prerequisite: GD 163

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.

Weekly Lab/Activity Hours: 6

Units: 3 Repeatable for a maximum of 6 units.

Course Typically Offered: Spring

GD 169 - Advanced Digital Illustration

Prerequisite: GD 163 and GD 165

Advanced digital illustration techniques. Analyzing and applying components of a visual style. Combining traditional and digital illustrative components.

Weekly Lab/Activity Hours: 6

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.

Weekly Lab/Activity Hours: 6
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.

Weekly Lab/Activity Hours: 6
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.

Weekly Lab/Activity Hours: 6
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.

Weekly Lab/Activity Hours: 6
Course Fee: \$30

Units: 3

Course Typically Offered: Fall

GD 178 - Professional Advertising Design

Prerequisite: 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

Units: 3

Course Typically Offered: Fall, Spring

GD 179 - Professional Practices In Graphic Design

Prerequisite: 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.

Weekly Lab/Activity Hours: 6
Course Fee: \$30

Units: 3

Course Typically Offered: Spring

GD 180 - Graphic Portfolio Development

Prerequisite: 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.

Weekly Lab/Activity Hours: 6
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** for a maximum of 6 units.

Course Typically Offered: Fall, Spring

GD 198I - Internship in Graphic Design

Prerequisite: 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 2 - Introduction to Cultural Geography

GE Area/Graduation Requirement: GE Breadth D2

Prerequisite: GE Foundation A2 for students in English college -readiness Category III and IV
General background to cultural geography, including origins of cultural landscapes, man's modification of the natural environment, and problems of population and settlement geography.

Units: 3

Course Typically Offered: Fall, Spring

GEOG 4 - World Geography

GE Area/Graduation Requirement: GE Breadth D2

Prerequisite: GE Foundation A2 for students in English college -readiness Category III and IV
Survey of world-wide social, cultural, economic and political forces; 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.

Units: 3

Course Typically Offered:

GEOG 5 - Introduction to Weather and Climate

GE Area/Graduation Requirement: GE Breadth B1

Prerequisite: GE Foundation B4
Introduction to atmospheric processes including energy and moisture exchanges; atmospheric pressure; global atmospheric and oceanic circulation patterns; precipitation processes; weather systems; and world, regional, and local climate systems, and climate change, and their collective impact on life on the earth, using analyses of data from many sources including charts, weather maps, radar and satellite imagery, and other data sources.

Units: 3

Course Typically Offered: Fall

GEOG 7 - Physical Geography: The Earth's Surface

GE Area/Graduation Requirement: GE Breadth B1

Prerequisite: GE Foundation B4
The course is a survey of those elements of the physical environment at the earth-atmosphere contact. Fundamentals of landform development including the processes that create the landscape of the earth, such as mountains, valleys, and beaches; soil development; biogeography; water resources, including surface and subsurface, and their collective impact on life on the earth, will be examined using maps, photographs, remote sensing, and other data sources.

Units: 3

Course Typically Offered: Spring

GEOG 25 - Critical Thinking in Geography

GE Area/Graduation Requirement: GE Foundation A3

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

Course Typically Offered: Fall, Spring

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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Units: 3

Course Typically Offered: Spring

GEOG 111 - Meteorology

Prerequisite: 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

GEOG 112 - Climatology

Prerequisite: 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

GEOG 114 - Micrometeorology

Prerequisite: MATH 75 (or equivalent) and GEOG 5 (or equivalent), or permission of instructor
(GEOG 114 same as PLANT 134.)
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

GEOG 115 - Violent Weather/Climatic Hazards

GE Area/Graduation Requirement: GE Integration IB

Prerequisite: GE Foundation and Breadth 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.

Units: 3

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

Prerequisite: GE Foundation and Breadth 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.

Units: 3

GEOG 127 - Global Environmental Change

Prerequisite: GE Foundation and Breadth 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

GEOG 128 - Environmental Pollution

GE Area/Graduation Requirement: GE Integration IB

Prerequisite: GE Foundation and Breadth B
A discussion of current environmental pollution problems involving the atmosphere, land, and water. The adverse effects of transportation, surface mining, sewage and waste disposal, noise, the use of pesticides, energy production and consumption, and related topics are examined.

Units: 3

Course Typically Offered: Fall, Spring

GEOG 129 - Environmental Impact Assessment

GE Area/Graduation Requirement: GE Integration IB

Prerequisite: GE Foundation and Breadth B
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

Prerequisite: junior standing, GE Foundation and Breadth D
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.

Units: 3

GEOG 133 - Environmental Policy Management

GE Area/Graduation Requirement: GE Integration ID

Prerequisite: GE Foundation, Breadth D and PLSI 2
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 134E - 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: GE Foundation and Breadth 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

GEOG 139T - Environmental Regions

Prerequisite: GE Foundation and Breadth 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.

Units: 3 **Repeatable** for a maximum of 9 units.

GEOG 141 - GIS I: Data Display and Manipulation

Prerequisite: 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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
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.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Units: 3

Course Typically Offered:

GEOG 143 - GIS III: Spatial Analysis and Modeling

Prerequisite: GEOG 141 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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Units: 3

Course Typically Offered: Spring

GEOG 152 - Remote Sensing I: Intro to Remote Sensing of Environment

Prerequisite: GE Foundation Breadth and 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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Units: 3

GEOG 160 - Urban Geography

Prerequisite: GE Foundation and Breadth 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

GEOG 161 - Historical Geography of the United States

Prerequisite: GE Foundation and Breadth 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

GEOG 162 - Political Geography

Prerequisite: GE Foundation and Breadth D
Systematic treatment of the nature and structure of states, boundary problems, political policy for the oceans, international power, air space.

Units: 3

GEOG 163 - World Crises

Prerequisite: GE Foundation and Breadth D
Current major political, economic, and environmental crises occurring on either a global or a regional level.

Units: 3

GEOG 164 - American Ethnic Geography

Prerequisite: GE Foundation and Breadth 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

GEOG 165 - Medical Geography

Prerequisite: GE Foundation and Breadth 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.

Units: 3

GEOG 166 - Geography of World Economy

Prerequisite: GE Foundation and Breadth 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.

Units: 3

GEOG 167 - People and Places- A Global Perspective

GE Area/Graduation Requirement:
Multicultural/International

Prerequisite: GE Foundation and Breadth 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.

Units: 3

Course Typically Offered:

GEOG 170T - Latin American Regions

Prerequisite: GE Foundation and Breadth 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** for a maximum of 9 units.

GEOG 171T - Anglo-American Regions

Prerequisite: 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.

Units: 1-3

GEOG 173 - The American West

GE Area/Graduation Requirement: GE
Integration ID

Prerequisite: GE Foundation, Breadth D and PLSI 2
Physical and human geography of the western continental United States. Occupancy 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.

Units: 3

Course Typically Offered: Fall, Spring

GEOG 174 - European Regions

GE Area/Graduation Requirement:
Multicultural/International

Prerequisite: GE Foundation and Breadth 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: 3

GEOG 175T - African Regions

Prerequisite: GE Foundation and Breadth 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.

Units: 1-3 **Repeatable** for a maximum of 9 units.

GEOG 177T - Asian Regions

Prerequisite: GE Foundation and Breadth 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** for a maximum of 9 units.

GEOG 178 - Geography of California

Prerequisite: GE Foundation and Breadth D
Natural and cultural patterns of California; historical and regional geography of the state.

Units: 3

GEOG 179 - Geography of the Middle East

Prerequisite: GE Foundation and Breadth 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

GEOG 190 - Independent Study

See Academic Placement -- Independent Study.
Approved for RP grading.

Units: 1-3 **Repeatable** for a maximum of 6 units.

Course Typically Offered: Fall, Spring

GEOG 191T - Topics in Geography

Prerequisite: GE Foundation and Breadth D
Selected topics in cultural, physical, environmental, or economic geography or in geographic techniques.

Units: 1-3 **Repeatable** for a maximum of 9 units.

Course Typically Offered: Fall, Spring

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** for a maximum of 6 units.

GEOG 195 - Field Geography

Prerequisite: permission of instructor
Weekend, semester break, or summer field trips.
CR/NC grading only.

Additional Activity: field trips
Units: 1-6

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 trend 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 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

GE Area/Graduation Requirement: GE Breadth C2

Prerequisite: GE 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.

Units: 4

Course Typically Offered:

GERM 2A - Intermediate German

GE Area/Graduation Requirement: GE Breadth C2

Prerequisite: GE 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.

Units: 3

Course Typically Offered:

GERM 2B - Intermediate German

GE Area/Graduation Requirement: GE Breadth C2

Prerequisite: GE 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.

Units: 3

Course Typically Offered:

GERM 8T - Selected Topics in German

Prerequisite: 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** for a maximum of 2 units.

GERM 50 - Conversation

Prerequisite or Corequisite: GERM 2B 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.

Units: 3 **Repeatable** for a maximum of 6 units.

Course Typically Offered: Spring

GERM 101 - Composition

Prerequisite: 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.

Units: 3 **Repeatable** for a maximum of 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** for a maximum of 6 units.

GERM 112 - German Literature to 1750

Prerequisite: GERM 2B recommended or permission of instructor
In-depth studies of German literature prior to 1750: Medieval, Renaissance, Reformation, Baroque, Enlightenment; including such authors as Wolfram, Walther von der Vogelweide, Luther, Grimm, Schlegel, Goethe. Critical analysis of texts, lecture, discussion, student reports.

Units: 3

GERM 114 - German Literature through the Classical Age

Prerequisite: 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

Prerequisite: 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

Prerequisite: 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

Prerequisite: 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

Prerequisite or Corequisite: GERM 2B 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.

Units: 3 **Repeatable** for a maximum of 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** for a maximum of 12 units.

GERM 190 - Independent Study

See Academic Placement -- Independent Study. Approved for RP grading.

Units: 1-3 **Repeatable** for a maximum of 6 units.

GERM 290 - Independent Study

See Academic Placement -- Independent Study. Approved for RP grading.

Units: 1-3 **Repeatable** for a maximum of 6 units.

Gerontology

GERON 10S - Journey of Adulthood: Planning a Meaningful Life

GE Area/Graduation Requirement: GE Breadth E

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.

Units: 3

Course Typically Offered: Fall, Spring

GERON 18 - Women and Aging

GE Area/Graduation Requirement: GE Breadth E

(WGSS 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.

Units: 3

GERON 100 - Images of Aging in Contemporary Society

GE Area/Graduation Requirement: GE Integration ID

Prerequisite: GE Foundation, Breadth D and PLSI 2
Explores aging theories; multicultural portrayals of aging through art, literature, 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.

Units: 3

Course Typically Offered: Fall, Spring

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

GE Area/Graduation Requirement: GE Breadth E

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 successful aging.

Units: 3

Course Typically Offered: Fall

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.

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.

Units: 1-3

GERON 139 - Death and Dying

Exploration of personal values and beliefs as well as diverse spiritual and cultural beliefs, groups regarding death, and its meaning for living. Practical matters surrounding death are also addressed.

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.

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

GE Area/Graduation Requirement: Multicultural/International

Prerequisite: GE Foundation and 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.

Units: 3

Course Typically Offered: Fall

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** for a maximum of 9 units.

GERON 185I - Internship in Gerontology

Prerequisite: For Gerontology certificates only; requires permission; restricted to undergraduate students only

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. Approved for RP grading.

Units: 1-3 **Repeatable** for a maximum of 6

units.

Course Typically Offered: Fall, Spring

Geomatics Engineering

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.

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.

Units: 3

Course Typically Offered: Fall, Spring

GME 15 - Engineering Surveying

Prerequisite: MATH 5 or MATH 75
Principles of surveying measurements for distance, direction, elevation, topographic and planimetric mapping, horizontal curves, vertical curves, earthwork and engineering applications.

Units: 3

Course Typically Offered: Fall, Spring

GME 15L - Engineering Surveying Laboratory

Prerequisite or Corequisite: GME 15

Field practice in geomatics measurement, construction stakeout, and curve alignment problems. (Formerly S E 15L)

Weekly Lab/Activity Hours: 3
Additional Activity: field trips
Units: 1

Course Typically Offered: Fall, Spring

GME 16 - Municipal Surveying

Prerequisite: GME 15 and GME 15L
Instrumentation; automated electronic survey data collection; land survey; introduction to photogrammetry, GPS, GIS, control surveys, and construction survey application, design, and implementation.

Units: 3

Course Typically Offered: Spring

GME 16L - Municipal Surveying Laboratory

Prerequisite or Corequisite: GME 16

Field and office practice in instrumentation: Automated electronic survey data collection; land survey, photogrammetry, GPS, GIS, and control surveys. Astronomy for azimuth applications.

Weekly Lab/Activity Hours: 3
Additional Activity: field trips
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.

Weekly Lab/Activity Hours: 3
Additional Activity: field trips
Units: 1

Course Typically Offered: Fall

GME 34 - Adjustment Computations

Prerequisite: 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.

Units: 3

Course Typically Offered: Spring

GME 40 - Route and Construction Surveying

Prerequisite: 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.

Weekly Lecture Hours: 3
Weekly Lab/Activity Hours: 3
Additional Activity: field trips
Units: 4

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.

Additional Activity: field trips
Units: 3

Course Typically Offered: Spring

GME 61 - Microcomputers in Engineering

Prerequisite or Corequisite: GME 15

Microcomputer operating systems; introduction to high level computer languages, file processing, program documentation, testing, and debugging.

Units: 3

Course Typically Offered:

GME 66L - 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: 1

Course Typically Offered:

GME 73 - Geomatics

Introduction to Geographic and Land Information Systems; software and hardware issues; practical exercises.

Units: 3

Course Typically Offered: Spring

GME 102 - Geodetic Surveying

Prerequisite: 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.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 3

Additional Activity: field trips

Units: 3

Course Typically Offered: Spring

GME 108 - Geodesy

Prerequisite: MATH 77, PHYS 4A, PHYS 4AL

Prerequisite or Corequisite: GME 34

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.

Units: 3

Course Typically Offered:

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).

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 3

Additional Activity: field trips

Units: 3

Course Typically Offered: Fall

GME 123 - Stereo-Photogrammetry

Prerequisite: GME 15

Prerequisite or Corequisite: GME 34

Imaging systems; image quality. Theory of stereo-photogrammetry; orientation of stereo-model. Design and operating principles of stereoplotters. Photogrammetric mapping; orthophoto mapping. Project planning.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 3

Additional Activity: field trips

Units: 3

Course Typically Offered: Fall

GME 125 - Analytical Photogrammetry

Prerequisite: 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.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 3

Additional Activity: field trips

Units: 3

Course Typically Offered: Spring

GME 126 - Digital Mapping

Prerequisite or Corequisite: GME 123 and GME 173

Design of data input, editing, display and processing mechanisms for digital mapping applications; hardware considerations and software design for DTM applications.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 3

Additional Activity: field trips

Units: 3

Course Typically Offered:

GME 135 - Advanced Adjustment Computations

Prerequisite: 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.

Units: 3

Course Typically Offered: Fall

GME 143 - Satellite Geodesy

Prerequisite: GME 102, GME 108

Prerequisite or Corequisite: GME 135

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.

Additional Activity: field trips

Units: 3

Course Typically Offered: Fall

GME 145 - Geopositioning

Prerequisite: 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.

Additional Activity: field trips

Units: 3

Course Typically Offered:

GME 151 - Boundary Control and Legal Principles

Prerequisite: GME 50 or permission of instructor

Legal principles that control the boundary location of real property.

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.

Additional Activity: field trips

Units: 3

Course Typically Offered:

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.

Additional Activity: field trips

Units: 3

Course Typically Offered:

GME 159 - Subdivision Design

Prerequisite: 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.

Additional Activity: field trips

Units: 3

Course Typically Offered: Spring

GME 161 - Data Interface Design

Prerequisite: 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.

Additional Activity: field trips

Units: 3

GME 173 - Introduction to GIS

Prerequisite: GME 15 and GME 66L 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.

Additional Activity: field trips

Units: 3

Course Typically Offered:

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.

Additional Activity: field trips

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.

Additional Activity: field trips

Units: 3

GME 180 - Senior Design Project

Prerequisite: UDWR

Prerequisite or Corequisite: GME 181

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.

Units: 3

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.

Additional Activity: field trips

Units: 3

Course Typically Offered: Fall

GME 190 - Independent Study

See Academic Placement. Approved for SP grading.

Additional Activity: field trips

Units: 1-3 **Repeatable** for a maximum of 6 units.

Course Typically Offered: Fall, Spring

GME 191T - Topics in Geomatics Engineering

Prerequisite: Permission of instructor
Investigation of selected geomatics engineering subjects not in current courses.

Units: 1-3 **Repeatable** for a maximum of 6 units.

GME 193I - Internship in Geomatics Engineering

Prerequisite: permission of advisor
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 used to meet graduation

requirements. CR/NC grading only.

Units: 2-4

Course Typically Offered: Fall, Spring

Greek

GRK 1A - Elementary Greek

GE Area/Graduation Requirement: GE Breadth C2

Prerequisite: GE 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.

Units: 3

Course Typically Offered:

GRK 1B - Elementary Greek

GE Area/Graduation Requirement: GE Breadth C2

Prerequisite: GE 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.

Units: 3

Course Typically Offered:

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** for a maximum of 12 units.

GRK 190 - Independent Study

See Academic Placement -- Independent Study.
Approved for RP grading.

Units: 1-3 **Repeatable** for a maximum of 6 units.

Higher Education Administration and Leadership

HEAL 220 - Introduction to Higher Education

Initial course in the Higher Education Administration & Leadership Program. Development of knowledge and skills central to managing educational organizations.

Units: 3

HEAL 221 - Student Affairs in Higher Education

This course examines the history, frameworks, and competencies in the field of Student Affairs Administration in Higher Education. Students will develop knowledge concerning the organization and function of student affairs. (Formerly EAD 278T)

Units: 3

HEAL 222 - Diversity, Inclusion, and Equity in Higher Education

Prerequisite: HEAL 220 and HEAL 221
This course examines topics related to diversity, equity, and inclusion in the field of Higher Education. Development and knowledge of theories related to diversity, equity, and social justice will be explored. (Formerly EAD 278T)

Units: 3

HEAL 223 - Students in US Higher Education

Prerequisite: HEAL 220 and HEAL 221
This course examines foundational theories and approaches to the study of students in higher education. Development and knowledge of theories and skills supporting college students will be explored.

Units: 3

HEAL 224 - Foundations of Inquiry and Applied Research in Higher Education

Prerequisite: HEAL 220 and HEAL 221
The purpose of this course is for students to understand, interpret, and apply knowledge in a higher education context. The course will examine the foundations of theory, discuss epistemological and ontological foundations, explore theoretical frameworks, research designs, and the use of institutional data with an emphasis in higher education contexts. (Formerly EAD 280T)

Units: 3

HEAL 225 - Higher Education Leadership and Supervision

Prerequisite: HEAL 220 and HEAL 221
This course examines foundational theories and approaches of higher education leadership and student affairs. Development and knowledge of theories and skills in supervision will also be explored.

Units: 3

HEAL 226 - Assessment in Higher Education

Prerequisite: HEAL 224
This course reviews foundational knowledge and skills related to assessment in higher education and leadership in creating more learner-centered environments. Reading material encompasses the study of a wide variety of outcomes-based assessment methods and instruments used in higher education, including classroom and program assessment techniques. (Formerly EAD 280T)

Units: 3

HEAL 227 - Law, Policy, and Ethics in Higher Education

This course introduces students to the frameworks that may inform decision making processes for administration and leadership in higher education.

Units: 3

HEAL 228 - Current Issues in Higher Education

This course examines current issues in higher education and prepares educational leaders on how to critically approach the topics addressed in the course. Development and knowledge of

current issues and trends in higher education will be explored.

Units: 3

HEAL 298 - Project

Prerequisite: advancement to candidacy for the master's degree
Culminating experience for the Higher Education Administration and Leadership program. Students will work with a faculty member on developing an eportfolio.

Units: 3

HEAL 298C - Project Continuation

Prerequisite: HEAL 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

HEAL 299 - Thesis

Prerequisite: advancement to candidacy for the master's degree
Culminating experience for the Higher Education Administration and Leadership program. 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

HEAL 299C - Thesis Continuation

Prerequisite: HEAL 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

Hebrew

HEBR 1A - Basic Hebrew

GE Area/Graduation Requirement: GE Breadth C2

Basic structure and pronunciation of Hebrew; practice in reading, writing, speaking, and

grammar; suitable introduction to both Biblical and modern Hebrew.

Units: 4

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

Health and Human Servicess

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. CR/NC grading only.

Weekly Lecture Hours: 1
Weekly Lab/Activity Hours: 2
Units: 2

HHS 18A - Career Pathways in Health and Human Services

Overview of health and human services professions. Review of interdisciplinary professional education and service, as well as the principles and philosophies of health and human services. Responsibilities, educational requirements, practice parameters, and job locations of various professionals are discussed. HHS 18 satisfies a course in the Pre-Health major and as an elective section of CHHS majors.

Units: 1

HHS 18B - Career Exploration and Collaboration in Health and Human Services

Prerequisite: HHS 18A
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. (Formerly HHS 100T)

Units: 2

Course Typically Offered: Spring

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** for a maximum of 6 units.

HHS 114S - Foundations of Interprofessional Collaboration

Prerequisite: admission to the CHHS Honors Program
Introduction to interprofessional values, knowledge and skills in Health and Human Services settings as well assessing current issues in the field of Health and Human Services. Classroom content will be reinforced through service-learning, which is an integral component of the course.

Units: 3

Course Typically Offered: Fall

HHS 115S - Applied Collaborative Leadership in Health and Human Services

Prerequisite: admission to the CHHS Honors Program and HHS 114S with a B grade or better.
Apply collaborative leadership values, knowledge and skills necessary to implement a community needs assessment project in an interprofessional context. Classroom content will be reinforced through service-learning, which is an integral component of the course.

Units: 3

Course Typically Offered: Spring

HHS 116W - Interprofessional Communication in Health and Human Services

Prerequisite: GE Foundation A2 with a C grade or better; minimum of 56 units completed; and declared major or minor in the college of Health and Human Services.
Introduction to interprofessional communication and collaboration with an emphasis on advocacy and population-centered service delivery. Develops skills for written communication in the health and services professions. Meets the upper-division writing skills requirement for graduation.

Units: 3

Course Typically Offered:

History

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.

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.

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:

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

GE Area/Graduation Requirement: GE Breadth D1

Prerequisite: GE Foundation A2 for students in English college -readiness Category III and IV 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.

Units: 3

Course Typically Offered:

HIST 12 - American History from 1877

GE Area/Graduation Requirement: GE Breadth D1

Prerequisite: GE Foundation A2 for students in English college -readiness Category III and IV 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.

Units: 3

Course Typically Offered:

HIST 13 - Empires of the Middle East

An introduction to the history of Middle East empires, from the rise of Islam to the First World War. This course looks at socio-economic, political, cultural, religious and intellectual developments that shaped the Middle and Near East regions.

Units: 3

HIST 15H - Trials of Century

GE Area/Graduation Requirement: GE Breadth D1

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.

Units: 3

HIST 20 - World History I

GE Area/Graduation Requirement: GE Breadth D2

Prerequisite: GE Foundation A2 for students in English college -readiness Category III and IV The economic, political and social development in world history from the earliest times to modern period (1500).

Units: 3

Course Typically Offered:

HIST 21 - World History II

GE Area/Graduation Requirement: GE Breadth D2

Prerequisite: GE Foundation A2 for students in English college -readiness Category III and IV The economic, political, and social development in world history from 1500 to the present.

Units: 3

Course Typically Offered:

HIST 100W - Introduction to Historical Research and Writing

Prerequisite: History major or minor in good standing and GE Foundation A2 with a C grade or better.

Individual guidance and criticism in research, writing, argumentation, and documentation. While engaging in historical research and writing, students gain a deeper appreciation of the disciplines 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

GE Area/Graduation Requirement: GE Integration ID

Prerequisite: GE Foundation, Breadth D and PLSI 2 (HIST 101 same as WGSS 101) Historical survey of women's roles in history, with an emphasis on the emergence of the feminist movement.

Units: 3

Course Typically Offered: Fall, Spring

HIST 102T - Topics in Women's History

(HIST 102T same as WGSS 102T) See Schedule of Courses for specific topics.

Units: 3 **Repeatable** for a maximum of 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.

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.

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** for a maximum of 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 ascendancy 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 114 - Gender, Sexuality and the Family in the Middle East

Examines the history of family, gender, and sexuality in the Middle East from the 7th century to the present. We explore how ideas about gender roles, sexuality, and family structures have changed over time in different historical events and circumstances.

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.

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 successor.

Units: 3

HIST 119T - Studies in Ancient History

Intensive study of special topics.

Units: 1-3 **Repeatable** for a maximum of 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** for a maximum of 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** for a maximum of 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

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 dissident 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** for a maximum of 6 units.

HIST 149TZ - England from Chaucer to Shakespeare

Units: 3 **Repeatable** for a maximum of 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 154 - Jewish American Popular Culture

GE Area/Graduation Requirement: GE Integration ID

Prerequisite: GE Foundation, Breadth D and PLSI 2
(HIST 154 same as JS 154) Study of Jewish immigrants and subsequent Jewish American contributions to entertainment and other forms of popular culture from New York to Hollywood, particularly in film, music, and comedy.

Units: 3

HIST 155 - Queer History of the United States

(WGSS 105 same as HIST 155) This course explores the historical development of institutions, ideals, social and cultural transformations, and economic and political processes in the U.S. since European colonization with a focus on the evolution of sexual and gender diversity, specifically the growth of the LGBTQ2+ community.

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.

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

(CLAS 171 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

Course Typically Offered:

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

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

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** for a maximum of 6 units.

HIST 170 - The American Colonies, 1607-1763

Social, cultural, and political developments in the 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 - Jews in American Film

(HIST 173 same as JS 173) The history of Jews as producers, directors, writers, actors, critics, and audiences of Hollywood cinema, and the reception and perception by non-Jews of Jewish involvement in the film industry in these multiple roles. Course content and assignments also reference the larger context of the Jewish American experience. (Formerly HIST 179T)

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:

HIST 179T - Studies in United States History

Intensive study of special topics.

Units: 1-3 **Repeatable** for a maximum of 6 units.

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.

Units: 3

HIST 181 - Anti-Semitism from the Medieval to Modern World

(HIST 181 same as JS 181.) 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

GE Area/Graduation Requirement:
Multicultural/International

Prerequisite: GE Foundation and Breadth 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.

Units: 3

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.

Units: 3

HIST 188 - Regional and Local History

Regional and local history with 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** for a maximum of 6 units.

Course Typically Offered:

HIST 191 - When Asia was the World and the World Changed Asia

History of the ideas, inventions, religions, people, material goods, and diseases that connected Asia and the world from the Mongolian world empire to the discovery of the Americas to the dawn of Western led imperialism and industrialization.

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 193I - 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** for a maximum of 6 units.

Course Typically Offered:

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 195 - Guns, Pirates, and Opium: Empire in Asia

Due to current economic empowerment of Asian economies, interest in connections between Asia and the world has surged. The driving question of this course is: Why did the paths of the West and the Rest diverge between 1400 and 1800?

Units: 3

Course Typically Offered: Fall, Spring

HIST 196 - Theories of History

Prerequisite: HIST 100W with a C grade or better and upper-division standing
Theories of History is an upper-division, elective course that is designed to introduce students to the theories of History, from early historiography to current theoretical approaches.

Units: 3

HIST 198 - Crafting History

Prerequisite: HIST 100W with a C grade or better and upper-division standing
Crafting History is a capstone course designed to implement the skills developed in HIST 100W and other history courses. Students will analyze primary and secondary sources and develop argumentation while pursuing individual historical projects. The research project will be subjected to peer review and feedback from the instructor.

Units: 3

HIST 199T - Studies in Far Eastern History

Intensive study in special topics.

Units: 1-3 **Repeatable** for a maximum of 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.

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.

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 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 230T - Topics in World History

Intensive reading, analysis and discussion of selected problems in World history.

Units: 3

HIST 290 - Independent Study

See Academic Placement --Independent Study. Approved for RP grading.

Units: 1-3 **Repeatable** for a maximum of 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: 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: HIST 299A and HIST 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

JS 173 - Jews in American Film

(HIST 173 same as JS 173) The history of Jews as producers, directors, writers, actors, critics, and audiences of Hollywood cinema, and the reception and perception by non-Jews of Jewish involvement in the film industry in these multiple roles. Course content and assignments also reference the larger context of the Jewish American experience. (Formerly HIST 179T)

Units: 3

Hmong

HMONG 1A - Basic Hmong

GE Area/Graduation Requirement: GE Breadth C2

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.

Units: 4

Course Typically Offered: Fall

HMONG 1B - Basic Hmong

GE Area/Graduation Requirement: GE Breadth C2

Prerequisite: HMONG 1A

Second semester course in conversational and written Hmong and cultural traditions of Hmong speaking people.

Units: 4

Course Typically Offered: Spring

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 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

HONOR 10 - Beginning Workshop in the Writing of Poetry - Global Culture, History and Values

GE Area/Graduation Requirement: GE Breadth C1

Open only to students in the Smittcamp Family Honors College. Beginning workshop in the writing of poetry; appropriate reading and analyses. This course will encourage students to discover creative and innovative ways to ameliorate conditions while deploying cultural diversity and vitality found in our Valley and University.

Units: 3

Course Typically Offered: Fall

HONOR 11 - Introduction to the Humanities - Global Culture, History and Values

GE Area/Graduation Requirement: GE Breadth C2

Prerequisite: GE Foundation A2

Open only to students in the Smittcamp Family Honors College. Inter-relationships among art, literature, music, and philosophy, from Antiquity through the present. This course will encourage students to discover creative and innovative ways to ameliorate conditions while deploying cultural diversity and vitality found in our Valley and University.

Units: 3

Course Typically Offered: Fall

HONOR 12 - U.S. in the Twentieth Century World - Global Culture, History and Values

GE Area/Graduation Requirement: GE Breadth D1

Open only to students in the Smittcamp Family

Honors College. This course studies the role of the United States in the world during the long twentieth century. This course will encourage students to discover creative and innovative ways to ameliorate conditions while deploying cultural diversity and vitality found in our Valley and University.

Units: 3

Course Typically Offered: Fall

HONOR 13 - Human Fragility and Cultural Transcendence- Global Culture, History and Values

GE Area/Graduation Requirement: GE Breadth D2

Open only to students in the Smittcamp Family Honors College. This course explores human nature through an interdisciplinary lens, drawing primarily upon the social sciences but also garnering insights from the natural sciences and the humanities. This course will encourage students to discover creative and innovative ways to ameliorate conditions while deploying cultural diversity and vitality found in our Valley and University.

Units: 3

Course Typically Offered: Fall

HONOR 20 - Public Communication and Civic Engagement

GE Area/Graduation Requirement: GE Foundation A1

Open only to students in the Smittcamp Family Honors College. In this course, you will learn how to develop informative and persuasive messages on topics relating to science and how to present messages effectively in face-to-face and mediated contexts.

Units: 3

Course Typically Offered: Spring

HONOR 21 - Science Communication

GE Area/Graduation Requirement: GE Breadth B2

Open only to students in the Smittcamp Family Honors College. This course showcases life sciences through topics such as nutrition, vaccination, and conservation to help you make

informed decisions and communicate your point of view to the public.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 3

Units: 3

Course Typically Offered: Spring

HONOR 101 - Global Creativity in the Arts and Humanities

GE Area/Graduation Requirement: GE Integration IC and Multicultural/International

Prerequisite: Open only to students in the Smittcamp Family Honors College. GE Foundation and Breadth C.

This course explores interrelationships among self, society, and culture through analysis of creative works in the arts, literatures, and philosophies from antiquity to the present day. Students can also fulfill this with a pre-designed and approved travel experience culminating in a research paper.

Units: 4

HONOR 102 - Global Social Issues: Exploring Challenges and Solutions

GE Area/Graduation Requirement: GE Integration ID and Multicultural/International

Prerequisite: Open only to students in the Smittcamp Family Honors College. GE Foundation, Breadth D and PLSI 2

This course examines fundamental issues in social sciences with a view to exploring historical and contemporary global social problems, challenges, and proposed solutions from an array of methodological and cross-cultural perspectives.

Units: 4

HONOR 103 - Natural Sciences, Culture, and Human Behavior

GE Area/Graduation Requirement: GE Integration ID and Multicultural/International

Prerequisite: Open only to students in the Smittcamp Family Honors College. GE Foundation and Breadth B.

This course explores the interactions of humans with their environments and analyzes relationships between human behaviors at the individual and collective levels, the environments they evolved in, and their relationships with the modern world.

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** for a maximum of 9 units.

Human Resource Management

HRM 150 - Administration of Personnel

Prerequisite: MGT 110

Prerequisite or Corequisite: BA 105W or ENGL 160W

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, MGT 110 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; MGT 110 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, MGT 110 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 155 - Training and Development

Prerequisite: MGT 110

Prerequisite or Corequisite: HRM 150

This course is designed to examine theories, concepts, and processes of human resource training and development in modern organizations to strategically meet current and future needs. The overarching goal is to provide you with the prerequisite knowledge and skills needed to design, implement, and evaluate training and development efforts using a variety of methods.

Units: 3

Course Typically Offered: Fall, Spring

HRM 157 - Legal Aspects of Human Resource Management

Prerequisite: HRM 150, MGT 110 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

Prerequisite: 90 units completed; HRM 150; BA 105W or ENGL 160W; and any two of the following courses: HRM 152, HRM 153, HRM 154, HRM 155, and HRM 157.

An integrative elective this course applies, reinforces, and strengthens students' academic and practical knowledge of Human Resource Management. The course uses a set of advanced topics in Human Resource Management (e.g., Corporate Social Responsibility) to integrate material. It is designed with flexibility to also incorporate timely topics related to HR.

Analytical, oral, and written communication skills are sharpened to help prepare students for successful careers in business or government and grad school.

Course Fee: Pay a mandatory test fee.

Units: 3

HRM 176 - Introduction to Industrial-Organizational Psychology

Prerequisite: Business majors
Prerequisite or Corequisite: DS 123

Introduction to the scientific study of human behavior in the workplace. 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 scientist-practitioner model.

Units: 3

Course Typically Offered: Fall, Spring

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** for a maximum of 9 units.

HRM 190 - Independent Study

See Academic Placement -- Independent Study.
Approved for RP grading.

Units: 1-3 **Repeatable** for a maximum of 6 units.

Course Typically Offered: Fall, Spring

HRM 195I - 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** for a maximum of 6 units.

Course Typically Offered: Fall, Spring

Humanities

HUM 1T - Topics in Humanities

Selected topics in the humanities not normally covered by regular course offerings.

Units: 1-4 **Repeatable** for a maximum of 12 units.

Course Typically Offered: Fall, Spring

HUM 10 - Humanities from Antiquity to the Renaissance

GE Area/Graduation Requirement: GE Breadth C2

Prerequisite: GE Foundation A2
Interrelationships among art, literature, music, and philosophy, from Greece and Rome through the Renaissance.

Units: 3

HUM 10H - Intro Humanities of the Western World

GE Area/Graduation Requirement: GE Breadth C2

Prerequisite: GE Foundation A2 (ENGL 5B or ENGL 10)
Not open to students outside the Honors College. Accelerated survey of the relationships between the art, literature, and philosophy of classical antiquity, from classical Greece to the dawn of the Renaissance.

Units: 3

HUM 11 - Humanities from the Baroque to the Modern

GE Area/Graduation Requirement: GE Breadth C2

Prerequisite: GE Foundation A2

Interrelationships among art, literature, music, and philosophy, from the 17th century Age of Reason to the present.

Units: 3

Course Typically Offered:

HUM 15 - Classical Myth and World Humanities

GE Area/Graduation Requirement: GE Breadth C2

Prerequisite: GE 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.

Units: 3

Course Typically Offered:

HUM 20 - Introduction to Hispanic Literature

GE Area/Graduation Requirement: GE Breadth C2

Prerequisite: GE 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.

Units: 3

Course Typically Offered:

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 for a maximum of 12 units.

Course Typically Offered: Fall, Spring

HUM 104 - Humanities in the Middle Ages and Renaissance

GE Area/Graduation Requirement: GE Integration IC

Prerequisite: GE Foundation and Breadth C
An examination of art, literature, philosophy, and music and their interrelationships in European culture during the Middle Ages and Renaissance.

Units: 3

Course Typically Offered: Fall, Spring

HUM 104Z - Hum Mdl Age Ren

Units: 3

HUM 105 - Cultures of the Portuguese-Speaking World

GE Area/Graduation Requirement: Multicultural/International

Prerequisite: GE Foundation and Breadth 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.

Units: 3

HUM 108 - Humanities in Classical Athens

GE Area/Graduation Requirement: GE Integration IC

Prerequisite: GE Foundation and Breadth 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.

Units: 3

Course Typically Offered: Fall, Spring

HUM 110 - Humanities in Republican and Imperial Rome

GE Area/Graduation Requirement: GE Integration IC

Prerequisite: GE Foundation and Breadth 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.

Units: 3

Course Typically Offered: Fall, Spring

HUM 118 - Folklore in Contemporary Life

GE Area/Graduation Requirement: GE Integration IC

Prerequisite: GE Foundation and Breadth 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.

Units: 3

Course Typically Offered: Fall, Spring

HUM 120 - Genocide, Memory and Media

GE Area/Graduation Requirement: GE Integration IC

Prerequisite: GE Foundation and Breadth C
Comparative study of the historical and visual representations of genocides from the 20th and 21st centuries. Explores the multiple convergences among memory, media, and genocide studies. Taught in English.

Units: 3

Course Typically Offered: Fall, Spring

HUM 129 - Mexican Culture

GE Area/Graduation Requirement: GE Integration IC

Prerequisite: GE Foundation and Breadth C
The student will be introduced to a variety of elements of Mexican culture in relation to notions of identity. This class will help the students develop basic analytical skills in their comprehension of Mexican culture and civilization.

Units: 3

Course Typically Offered: Fall, Spring

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.

Units: 3

HUM 140 - Tradition and Change in China and Japan

GE Area/Graduation Requirement: Multicultural/International

(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

HUM 190 - Independent Study

See Academic Placement -- Independent Study. Approved for RP grading.

Units: 1-3 Repeatable for a maximum of 6 units.

Interdisciplinary Art Studies

IAS 108 - Interdisciplinary Arts Studies

GE Area/Graduation Requirement: GE Integration IC

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

Interior Design

ID 7 - Design Studio I

Basic design concepts and drafting techniques; working drawings, introduction to codes and standards; lettering; metric & imperial systems.

Weekly Lab/Activity Hours: 8
Course Fee: \$30

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 mixed media.

Weekly Lab/Activity Hours: 6
Course Fee: \$30

Units: 3

Course Typically Offered:

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
Prerequisite or Corequisite: ID 70

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.

Weekly Lab/Activity Hours: 8
Course Fee: \$30

Units: 4

Course Typically Offered: Fall, Spring

ID 77 - Design Graphics II

Prerequisite: ID 43
Computer graphics. Topics include 2D/3D digital graphics (digital) photographic editing and illustration, typography, computer/web graphics, presentation and communication.

Weekly Lab/Activity Hours: 6
Course Fee: \$30

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 include fieldtrips.

Weekly Lecture Hours: 1
Weekly Lab/Activity Hours: 2
Course Fee: \$30

Units: 2

Course Typically Offered: Fall, Spring

ID 111 - Design Graphics III

Prerequisite: ID 7, ID 43, ID 77
Topics include: Computer Aided Design, Computer Media, 2D/3D modeling, rendering, lighting and environmental effects.

Weekly Lab/Activity Hours: 6
Course Fee: \$30

Units: 3

Course Typically Offered: Fall, Spring

ID 112 - Design Studio III

Prerequisite: ID 7, ID 71 and 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.

Weekly Lab/Activity Hours: 8
Course Fee: \$30

Units: 4

Course Typically Offered:

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.

Weekly Lab/Activity Hours: 6
Course Fee: course fee, \$220

Units: 3

Course Typically Offered: Fall

ID 116 - Design Graphics IV

Prerequisite: ID 77, ID 111
Advanced topics in digital design and multimedia art. Topics include advanced modeling, materials, lighting, environmental effects and animation.

Weekly Lab/Activity Hours: 6
Course Fee: \$30

Units: 3

Course Typically Offered: Fall, Spring

ID 120 - Design History/Theory & Tours III

Prerequisite: 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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Additional Activity: field trips
Units: 3

Course Typically Offered: Fall

ID 130 - Lighting Design

Prerequisite: ID 7, ID 70, ID 110
Lighting design and details. Includes schematic design, reflected ceiling-plans, laboratory testing and lighting calculations.

Weekly Lecture Hours: 1
Weekly Lab/Activity Hours: 2
Course Fee: \$30

Units: 2

Course Typically Offered: Fall, Spring

ID 131 - Design Materials & Specifications

Prerequisite: ID 70
Selection, specifications, and computations for design materials.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Course Fee: \$30

Units: 3

Course Typically Offered: Fall, Spring

ID 132T - Topics in Interior Design

Topics related to interior design. Some topics may have labs.

Units: 1-4 **Repeatable** for a maximum of 12 units.

ID 133 - Professional Practices

Prerequisite: 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 architects, product/furniture designers and public/private organizations. Includes developing a portfolio of design work.

Weekly Lecture Hours: 1
Weekly Lab/Activity Hours: 2
Course Fee: \$30

Units: 2

Course Typically Offered: Spring

ID 134 - Restoration and Preservation

Prerequisite: ID 112 and permission of instructor
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.

Weekly Lab/Activity Hours: 6
Course Fee: \$30

Units: 3

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.

Weekly Lab/Activity Hours: 6
Course Fee: \$30

Units: 3

Course Typically Offered: Spring

ID 137 - Interior Architectural Graphics and Models

Prerequisite: ID 77, ID 111
Prerequisite or Corequisite: ID 112

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.

Weekly Lab/Activity Hours: 6
Course Fee: \$30

Units: 3

Course Typically Offered: Spring

ID 138 - Design Studio V

Prerequisite: ID 112, ID 116
Prerequisite or Corequisite: ID 133

Design for mixed-use environments, diverse clients and budgets. Emphasis on design ideation, advanced schematics, presentations, codes/specifications.

Weekly Lab/Activity Hours: 8
Course Fee: \$30

Units: 4

Course Typically Offered:

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.

Weekly Lab/Activity Hours: 8
Units: 4

Course Typically Offered: Spring

ID 149S - Design Studio VII: Advanced Design

Prerequisite: 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. S sections include a service-learning requirement.

Weekly Lab/Activity Hours: 8
Course Fee: \$30

Units: 4

Course Typically Offered: Fall

ID 150 - Senior Thesis Exhibits

Prerequisite: ID 149S
Corequisite: ID 155
Discussion and gallery-presentation of senior thesis projects. Includes group discussions, and conferences with faculty on senior projects. Culminates in the Senior Exhibit S

Weekly Lab/Activity Hours: 4
Course Fee: \$60

Units: 2

Course Typically Offered: Spring

ID 152IE - Design Practicum & Entrepreneurship

Prerequisite: ID 133
Corequisite: ID 149S or ID 155
Supervised professional practice in architecture/design or related industry. Experience with diverse methods of job costing, profit/loss analysis and project management.

Units: 3

Course Typically Offered: Fall, Spring

ID 155 - Design Studio VIII: Senior Thesis

Prerequisite: ID 149S
Corequisite: ID 150
Capstone design thesis studio. S

Course Fee: \$100

Units: 4

Course Typically Offered: Spring

ID 190 - Independent Study

See Academic Placement-- Independent Study. Approved for RP grading.

Units: 1-3 **Repeatable** for a maximum of 6 units.

Course Typically Offered: Fall, Spring

Interdisciplinary Capstone

INTD 50 - Critical Thinking on Global Issues

GE Area/Graduation Requirement: GE Foundation A3

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.

Units: 3

INTD 177 - Global Challenges

GE Area/Graduation Requirement: Multicultural/International

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.

Units: 3

Information Systems

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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Units: 3

Course Typically Offered:

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.

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. CR/NC grading only.

Weekly Lab/Activity Hours: 2
Units: 1

Course Typically Offered:

IS 106 - Client-Side Software Architecture

Prerequisite or Corequisite: IS 51, IS 158

Theory and practice of software design and development and source control management system. Concepts of UI/UX design optimization and the basics of web-based framework client-side programming. Introduction to Internet architecture concepts, protocols, and application deployment.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Units: 3

IS 130 - Information Systems

Prerequisite: IS 52 and IS 52L or equivalent
Use of information systems in business activities and throughout global organizations. Integration of people, software, hardware, data, and communication technologies to create competitive advantage. Information technology as enabler of process improvement in quality, flexibility, and speed and as facilitator of decision-making. Application software prevalent or emerging in organizations. Hands-on practice with spreadsheet, database, analytics, and other leading software applications.

Units: 3

Course Typically Offered:

IS 140 - Geographic Information Systems (GIS) for Business

Prerequisite: 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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Units: 3

Course Typically Offered: Fall

IS 141 - Cyber-Security

Prerequisite: IS 130 or permission 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. (Formerly IS 189T.)

Units: 3

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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Units: 3

Course Typically Offered: Fall, Spring

IS 156T - Topics in Emerging Information Technologies

Prerequisite: IS 52 and IS 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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Units: 3 **Repeatable** for a maximum of 6 units.

IS 158 - Database Design and SQL

Prerequisite: IS 51 or permission of instructor
Concepts in data and database design. Identifying information requirement; modeling techniques; relational data models; normalization; using industrial-strength database management system. Data retrieval with standard query language, SQL

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Units: 3

Course Typically Offered:

IS 160 - Artificial Intelligence in Business

Prerequisite: IS 170

Building on top of the machine learning applications, this course presents the concepts and algorithms of deep learning (DL) and reinforcement learning (RL). Student will: 1) learn the mathematical concepts of DL and RL, 2) understand how to setup DL & RL models using leading coding platform, 3) exercise critical thinking for the data preparation - feature engineering and 4) explore DL & RL business applications. The essential topics such as gradient descent and Markov decision process are emphasized. (Formerly IS 189T)

Units: 3

Course Typically Offered: Fall

IS 166 - Information Systems, Analysis and Design

Prerequisite: IS 158 with a C grade or better, 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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Units: 3

IS 170 - Machine Learning Applications

Prerequisite: IS 51 or permission of instructor and IS 130
Machine Learning, a sub-domain of Artificial Intelligence, encompasses supervised and unsupervised (data mining) algorithms used to process business data. Introduction to each topic/algorithm's definition, background, concept, coding, and evaluation of business applications and implications. Hands-on coding and executing algorithms. A set of latest machine learning tools and software applications are used. (Formerly IS 156T)

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Units: 3

Course Typically Offered:

IS 181 - Computer Networks Management

Prerequisite: IS 52 and 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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Units: 3

Course Typically Offered: Fall, Spring

IS 182 - Advanced Network Design and Management

Prerequisite: 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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Units: 3

Course Typically Offered:

IS 183 - Web Development and Mobile Design

Prerequisite: IS 51
Prerequisite or Corequisite: IS 106, IS 158

Theory and practice of advanced software development, authoring, and source control management. Authoring of Dynamic HTML and cascading style sheets; Web-based e-commerce application design (client-side scripting and server-side scripting with a back-end database), and an introduction to native mobile applications development using a hybrid approach (iOS and/or Android).

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Units: 3

Course Typically Offered: Spring

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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Units: 3

Course Typically Offered: Fall, Spring

IS 187 - IS Practicum

Prerequisite: IS 158, IS 166; 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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
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** for a maximum of 6 units.

IS 190 - Independent Study

See Academic Placement -- Independent Study. Approved for RP grading.

Units: 1-3 **Repeatable** for a maximum of 6 units.

Course Typically Offered: Fall, Spring

IS 195I - 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** for a maximum of 6 units.

Course Typically Offered: Fall, Spring

International Studies Abroad

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

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

ISA 292 - Projects in Study Abroad

Prerequisite: admission to master's degree program; written plan approved by the instructor, department chair, and dean of the Division of Graduate Studies
One- to three-unit registrations. 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

Industrial Technology

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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Units: 3

Course Typically Offered: Fall

IT 20 - Technology and Society

GE Area/Graduation Requirement: GE Breadth D2

Prerequisite: GE Foundation A2 for students in

English college -readiness Category III and IV
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.

Units: 3

Course Typically Offered:

IT 30 - Exploring Industrial Technology Systems

Introductory survey of the Industrial Technology discipline including: technology sub-systems (power/energy, communication/electronics, product development, process control) and the relationship with other disciplines, including business management, engineering, education and health/safety. Includes field trips to business, educational and industrial facilities.

Weekly Lecture Hours: 1
Additional Activity: field trips
Units: 1

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.

Weekly Lab/Activity Hours: 6
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.

Weekly Lab/Activity Hours: 6
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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 4
Additional Activity: field trips
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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 4
Additional Activity: field trips
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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Course Fee: \$70

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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Course Fee: \$20

Units: 3

Course Typically Offered:

IT 80 - Wood Technology

Wood properties, materials, finishing; hand, portable electric, and machine tool processing; design, production planning; safety, adhesives, and cutting principles; machine design and use.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
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 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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Units: 3

Course Typically Offered: Spring

IT 105 - Fundamentals of Citrus Processing Lines

Study of fundamentals and operation of modern citrus processing line. Topics include but are not limited to fruit unloading, transfer system, washing, grading and sorting. Equipment selection, programmable logic controllers and other technologies employed in a state of the art citrus processing line will also be studied.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Units: 3

Course Typically Offered: Fall, Spring

IT 106 - Energy Conversion and Utilization

Fundamental sources of energy, including the following energy systems: direct, mechanical, external combustion, internal combustion, solar power, wind power, electrical and atomic systems.

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 109 - Irrigation Water Delivery Systems

Exploration of irrigation and water delivery systems including sprinkler, drip tape (tubing), pumps, variable frequency drives (VFD), filters, control valves, automatic controllers, pipes and fittings, irrigation system efficiency, uniformity and system maintenance.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
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.

Weekly Lab/Activity Hours: 6
Additional Activity: 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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Units: 3

IT 114 - Industrial Materials

Prerequisite: CHEM 3A or instructor permission
Chemical and physical properties of metals, polymers, ceramics, composites. Atomic structure and phases of matter emphasizing crystalline and amorphous solids. Mechanical properties, strength and testing of materials including impact, hardness, and tensile. Metallographic, microscopic inspection of electronic, and metallic specimen.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Course Fee: \$10

Units: 3

Course Typically Offered: Fall, Spring

IT 115 - Design and Documentation Systems

Prerequisite: 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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
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.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Units: 3

IT 117 - Quality Assurance

Prerequisite: 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.

Additional Activity: field trips

Units: 3

Course Typically Offered: Fall, Spring

IT 120 - Vehicle Engine Systems

Prerequisite: IT 12

Prerequisite or Corequisite: IT 52

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.

Weekly Lab/Activity Hours: 6

Additional Activity: field trips

Units: 3

Course Typically Offered: Spring

IT 121 - Automotive Engine Machining

Prerequisite: 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.

Weekly Lab/Activity Hours: 6

Additional Activity: field trips

Course Fee: \$6

Units: 3

IT 124 - Hybrid and Alternative Fuel Vehicles

Design, construction, and mechanical functions of hybrid and alternative fuel vehicles including hybrid engine systems and alternative fuels. It focuses on electric motors, regenerative braking systems, hybrid vehicle transmissions, electric and plug-in vehicles, and fuel cells. (Formerly IT 191T)

Units: 3

Course Typically Offered: Spring

IT 126 - Intelligent Robot

Advanced studies of artificial intelligence (AI) including TensorFlow, deep learning, and deep neural network used for intelligent robotics. Computer vision and natural language understanding to build intelligent machines with the potential to serve agriculture. (Formerly IT 191T)

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.

Weekly Lab/Activity Hours: 6

Units: 3-6

Course Typically Offered: Fall

IT 128 - Self-Driving Vehicles

Advanced studies of self-driving technologies and the applications in transportation and agriculture. Artificial intelligence principles for autonomous driving with road signs recognition, road data processing and autopilot technologies.

Units: 3

Course Typically Offered: Fall, Spring

IT 129 - Vehicle Diagnostic Procedures

Prerequisite: IT 12

Prerequisite or Corequisite: IT 52

Laboratory study and analysis of mechanical, electrical, and computer control problems. Technical reports.

Weekly Lab/Activity Hours: 6

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.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Additional Activity: field trips

Course Fee: \$5

Units: 3

Course Typically Offered: Fall

IT 133 - Industrial Process Control Systems II

Prerequisite: IT 52

Programmable logic controller principles and equipment; programming languages, procedures, and documentation; equipment and software selection and application.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

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.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2
Units: 3

Course Typically Offered: Spring

IT 137 - International Quality Standards

Prerequisite: IT 74 and IT 117
ISO 9000 and related quality systems, including how such systems are implemented and managed in organizations. Includes basic technology and organizational management concepts.

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.

Units: 3

Course Typically Offered: Fall, Spring

IT 147 - Advanced CAD Applications

Prerequisite: IT 115
148. Project Planning and Control (3). 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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
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.

Weekly Lecture Hours: 1
Weekly Lab/Activity Hours: 4
Additional Activity: 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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 4
Units: 4

IT 165 - Router and Internetworking II

Prerequisite: IT 164
Create and deploy a global internet. Troubleshoot an environment that uses routers and switches for multiprotocol 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)

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 4
Units: 4

IT 184 - Advanced Manufacturing Technology

Prerequisite: IT 74, IT 117
Analysis of production operations including product design, work cells, tooling capacity planning, material handling, scheduling and flow chart using lean principles. Exploration of manufacturing paradigms.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Additional Activity: 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** for a maximum of 6 units.

Course Typically Offered:

IT 191T - Technical Topics in Industrial Technology

Prerequisite: permission of instructor
Investigation and analysis of selected subjects in industrial technology. (Lecture and/or laboratory)

Units: 1-3 **Repeatable** for a maximum of 6 units.

IT 194I - Cooperative Education in Industrial Technology

Prerequisite: junior standing; courses appropriate to the work experience; permission of department cooperative education coordinator
Integration of work experience with academic program, individually planned through program adviser. CR/NC grading only.

Units: 1-4 **Repeatable** for a maximum of 12 units.

Course Typically Offered: Spring

IT 196 - Senior Seminar

Exploration of technology systems management trends and preparation for employment or further study in technical fields. Technology forecasting, orientation to professional

certifications, employment correspondence, interview techniques and leadership skills.

Units: 1

Course Typically Offered: Fall, Spring

IT 198W - Technical Writing

Prerequisite: GE Foundation A2 with a C grade or better.

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:

IT 199 - Senior Problem in Industrial Technology

Prerequisite: IT 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:

IT 216 - Production Data Analytics

Prerequisite: IT Majors only

Data analysis techniques for predictive and forecasting analytics in production operations. Data visualization and reporting for business intelligence and management decision support systems. Supply chain optimization and process analysis through data analysis. Big data characteristics.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Units: 3

IT 217 - Quality Management Techniques

Total quality management principles, techniques, and skills including auditing, design of experiments, quality costs, sampling, and reliability. Quality control charts such as Pareto charts and Run charts. (Formerly IT 284T)

Units: 3

IT 218 - Scheduling in Manufacturing and Services

Scheduling applications in manufacturing such as job shop scheduling, flexible assembly systems economic lot scheduling and supply chain scheduling. Service scheduling applications such as workforce, transportation, reservations and timetabling. (Formerly IT 284T)

Units: 3

IT 219 - Applied Sensor Technology

Prerequisite: IT Majors only

This course covers sensor technology and their applications in business, environmental, and agricultural industry. Students will primarily learn about sensors and controls, functions, and concepts such as sensor data models, control and data acquisition systems for Internet of Things (IoT) technology and smart automation.

Units: 3

IT 223 - Management of New Technology

Prerequisite: IT Majors only

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 226 - Intelligent Robot in Agriculture

Advanced studies of artificial intelligence (AI) including TensorFlow, deep learning, and deep neural network used for robotics. Computer vision and natural language understanding to build self-learning machines with the potential to serve agriculture. (Formerly IT 284T)

Units: 3

Course Typically Offered: Fall

IT 228 - Self-Driving Vehicles

Advanced studies of self-driving technologies and the applications in transportation and agriculture. Artificial intelligence principles for autonomous driving with road signs recognition, road data processing and autopilot technologies. (Formerly IT 284T)

Units: 3

Course Typically Offered: Spring

IT 280 - Research Methodology

Prerequisite: MATH 11 or DS 73

Seminar in research procedures in industrial education and technology; 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 incorporation 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 composites 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 for a maximum of 9 units.

IT 285 - Advanced Manufacturing Systems

Prerequisite: 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** for a maximum of 6 units.

IT 298 - Project

Prerequisite: 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

Prerequisite: IT 280; advancement to candidacy
Preparation, completion, and submission of an acceptable thesis for the master's degree. Must take 3 units in each of two semesters. Approved for RP grading.

Units: 3

IT 299C - Thesis Cont

Prerequisite: IT 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

Italian

ITAL 1A - Elementary Italian

GE Area/Graduation Requirement: GE Breadth C2

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:

ITAL 1B - Elementary Italian

GE Area/Graduation Requirement: GE Breadth C2

Prerequisite: GE 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.

Units: 4

Course Typically Offered:

ITAL 2A - Intermediate Italian

GE Area/Graduation Requirement: GE Breadth C2

Prerequisite: GE Foundation A2; ITAL 1B recommended or permission of instructor
Review of grammar and syntax; composition; oral practice, reading of short stories and plays

Units: 3

Course Typically Offered:

ITAL 2B - Intermediate Italian

GE Area/Graduation Requirement: GE Breadth C2

Prerequisite: G.E. Foundation A2; ITAL 2A recommended or permission of instructor
Oral and written composition; reading of short stories, novels, biographies.

Units: 3

Course Typically Offered:

ITAL 5 - Conversation

Prerequisite or Corequisite: ITAL 2A or ITAL 2B; ITAL 1B recommended

Development of listening skills and oral fluency through discussion, vocabulary exercises, and conversations on assigned topics.

Units: 3 **Repeatable** for a maximum of 6 units.

ITAL 100 - Italian Literature and Cinema in Translation

GE Area/Graduation Requirement: Multicultural/International

Prerequisite: GE Foundation and Breadth D

This course will explore a variety of topics linked to the Italian culture and its influence on the United States through films and literature in Italian and in English.

Units: 3

Course Typically Offered: Fall, Spring

ITAL 110 - Italian Food Culture

GE Area/Graduation Requirement: GE Integration IC

Prerequisite: GE Foundation and Breadth Area C

This course, taught in English, focuses on the culture of food in Italian history, literature, and cinema and its influence in the USA. In particular, we will analyze the historical, social, and symbolic value of food from the Roman Empire to the contemporary Italian world-renowned "Slow Food" movement. (Formerly ITAL 160T)

Units: 3

ITAL 130 - Leadership in Italy: from Machiavelli to Mussolini

GE Area/Graduation Requirement: GE Integration IC

Prerequisite: GE Foundation and Breadth C

This course, taught in English, explores leadership in Italian culture through the lives and times of the two most known (and infamous) Italian politicians, Niccolò Machiavelli and Benito Mussolini and their influence on the United States. (Formerly ITAL 160T)

Units: 3

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** for a maximum of 9 units.

ITAL 190 - Independent Study

See Academic Placement -- Independent Study. Approved for RP grading.

Units: 1-3 **Repeatable** for a maximum of 6 units.

Japanese

JAPN 1A - Elementary Japanese

GE Area/Graduation Requirement: GE Breadth C2

Prerequisite: GE 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

JAPN 1B - Elementary Japanese

GE Area/Graduation Requirement: GE Breadth C2

Prerequisite: GE Foundation A2 and JAPN 1A
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

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 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

Jewish Studies

JS 10 - Jewish Civilization

GE Area/Graduation Requirement: GE Breadth D2

Prerequisite: GE Foundation A2 for students in English college -readiness Category III and IV
An overview of Jewish civilization from ancient to modern times that focuses on specific themes, events, and ideas that have shaped global developments in Jewish history, culture, and society within both Jewish community and minority status contexts.

Units: 3

JS 100W - Writing and the Jewish Experience

Prerequisite: GE Foundation A2 with a C grade or better.
Survey of the Jewish experience. Emphasis on

research methods, evaluation of evidence, and writing mechanics and exposition. Meets the upper-division writing skills requirement for graduation.

Units: 3

Course Typically Offered: Fall, Spring

JS 118T - Topics in Jewish History and Culture

Studies in Jewish History and Culture. Intensive study of special topics.

Units: 1-3 **Repeatable** for a maximum of 6 units.

Course Typically Offered: Fall

JS 154 - Jewish American Popular Culture

GE Area/Graduation Requirement: GE Integration ID

Prerequisite: GE Foundation, Breadth D and PLSI 2
(HIST 154 same as JS 154) Study of Jewish immigrants and subsequent Jewish American contributions to entertainment and other forms of popular culture from New York to Hollywood, particularly in film, music, and comedy.

Units: 3

JS 181 - Anti-Semitism from the Medieval to Modern World

(HIST 181 same as JS 181) 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

Kinesiology Activity

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.

Course Fee: \$4

Units: 1

Course Typically Offered:

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.

Course Fee: \$4

Units: 1

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.

Course Fee: \$4

Units: 1

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

Units: 1

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.

Course Fee: \$4

Units: 1

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.

Course Fee: \$4

Units: 1

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.

Course Fee: \$4

Units: 1

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.

Course Fee: \$4

Units: 1

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.

Course Fee: \$4

Units: 1

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.

Course Fee: \$4

Units: 1

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

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.

Course Fee: \$4

Units: 1

Course Typically Offered: Fall, Spring

KAC 26 - Shiatsu Massage

Fundamental principles and techniques of shiatsu (Japanese Acupressure Therapy); the physiological and psychological effects of shiatsu; different techniques of pressure application, basic shiatsu points; and basic shiatsu routine.

Course Fee: \$4

Units: 1

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.

Course Fee: \$4

Units: 1

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

Units: 1

KAC 30 - Elementary Golf

Beginning instruction on the techniques for putting, chipping, pitching, iron, and wood shots. Also includes rules and etiquette for golf.

Course Fee: \$4

Units: 1

KAC 31 - Elementary Gymnastics

Basic skills for balancing, stunts, tumbling, trampolining and apparatus work.

Course Fee: \$4

Units: 1

Course Typically Offered:

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.

Course Fee: \$4

Units: 1

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.

Course Fee: \$4

Units: 1

Course Typically Offered: Fall, Spring

KAC 40 - Elementary Karate

Japanese style of Shotokan Karate.

Course Fee: \$4

Units: 1

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.

Course Fee: \$4

Units: 1

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.

Course Fee: \$4

Units: 2

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.

Course Fee: \$4

Units: 1

KAC 44 - Kendo

The art of Japanese fencing; emphasizes self-discipline, physical training, competition, and swordsmanship.

Course Fee: \$4

Units: 1

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.

Units: 1

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.

Course Fee: \$4

Units: 1

KAC 47 - Tai Chi

Fundamentals of history, philosophy, and practice of Tai Chi.

Course Fee: \$4

Units: 1

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.

Course Fee: \$4

Units: 1

KAC 49 - Kickboxing

Basic kickboxing techniques and physical conditions.

Course Fee: \$4

Units: 1

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

Units: 1

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.

Course Fee: \$4

Units: 1

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.

Course Fee: \$4

Units: 1

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

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.

Course Fee: \$4

Units: 1

Course Typically Offered: Fall, Spring

KAC 61 - Fitness Development through Pilates Mat

Basic principles and techniques of Pilates mat exercises.

Course Fee: \$4

Units: 1

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.

Course Fee: \$4

Units: 1

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.

Course Fee: \$4

Units: 1

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.

Course Fee: \$4

Units: 1

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.

Course Fee: \$4

Units: 1

Course Typically Offered: Fall, Spring

KAC 80T - Intermediate Fencing

Intermediate footwork offensive and defensive techniques for foil and saber.

Units: 1

KAC 101 - Advanced Lifesaving

300 yard continuous swim (front crawl and breaststroke), 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

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.

Course Fee: \$4

Units: 1

Course Typically Offered:

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

KAC 171 - Intermediate Volleyball

Prerequisite: KAC 71 or equivalent
Review of basic skills and introduction of intermediate level skills and strategies.

Course Fee: \$4

Units: 1

Kinesiology

AT 204 - Documentation and Medical Terminology

Prerequisite: Admission to the Master of Science in Athletic Training Program.
The purpose of this course is to introduce students to terminology, note writing, and documentation techniques utilized in athletic training. Standard medical documentation, medical history, and formatting will be learned.

Units: 1

KINES 1 - Introductory Principles and Techniques for Physical Fitness Development

Prerequisite: Kinesiology 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 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.

Weekly Lab/Activity Hours: 2

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

Prerequisite: Course open to Physical Education majors only or with permission from the department

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

GE Area/Graduation Requirement: GE Breadth E

Corequisite: enrollment in any Kinesiology Activity Course (KAC)
Healthy lifestyle patterns, exercise, nutrition, and physiological hygiene. Prevention of chronic diseases. Long-term behavior modification. Includes physiological measurements, nutritional analysis, and principle of exercise.

Units: 2

Course Typically Offered:

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.

Units: 3

Course Typically Offered:

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 - Care and Prevention of Athletic Injuries

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.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Units: 3

Course Typically Offered:

KINES 43 - Introductory Experience in Athletic Training

Designed for prospective athletic training students. This 16-week experience will allow students to observe with certified athletic trainers in a variety of clinical settings. CR/NC grading only.

Units: 1 **Repeatable** for a maximum of 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 internal and external aspects of sport organizations as well as common sport careers, duties, and responsibilities within the sport industry.

Units: 3

Course Typically Offered: Fall

KINES 48 - Emergency Management of Athletic Trauma

Recognition, prevention, and treatment for emergency conditions that occur in athletes and other physically active individuals. Certification in CPR/AED for the Professional Rescuer if requirements are met.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Units: 3

Course Typically Offered:

KINES 75T - Topics in Kinesiology

Introductory topics in kinesiology not available through current curricula offerings.

Units: 1-3 **Repeatable** for a maximum of 8 units.

KINES 109 - Motor Learning

Prerequisite: Physical Education only: KINES 1, KINES 31, KINES 32, and KINES 35; for other options and majors: no prerequisites
Principles of motor learning. The study of various theories. Application of theories and findings in presentations and planning of movement activities.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Units: 3

Course Typically Offered: Fall

KINES 110 - Motor Development

Prerequisite: Physical Education only: KINES 1, KINES 25, KINES 31, KINES 32 and KINES 35
Other Options and Majors, no prerequisites
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

GE Area/Graduation Requirement: GE Integration ID

Prerequisite: GE Foundation, Breadth D and PLSI 2
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.

Units: 3

Course Typically Offered: Fall, Spring

KINES 116 - Fundamentals of Biomechanics

Prerequisite: Physical Education only: KINES 1; for other options and majors: KINES 35 or BIOL 33 or BIOL 67A
Study of structural and mechanical properties of musculoskeletal system, associated movement function of human body, and applied physics.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Units: 3

Course Typically Offered:

KINES 118 - Fundamentals of Exercise Physiology

Prerequisite: KINES 35 or BIOL 33 or BIOL 67B
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:

KINES 119 - ECG and Clinical Exercise Physiology

Prerequisite or Corequisite: KINES 118

Foundational principles and concepts of electrocardiography, and clinical applications of principles and concepts of exercise physiology.

Course Fee: CSU liability insurance fee, \$8

Units: 3

Course Typically Offered: Fall, Spring

KINES 120 - Planning Strategies for Physical Education

Prerequisite:
KINES 1, KINES 31, KINES 35, and KINES 110 with a C grade or better.
Organization, presentation, and evaluation of in-class demonstrations. Philosophy of teacher preparation covered and developed through practice, observation, planning and presentations.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Units: 3

Course Typically Offered: Fall, Spring

KINES 121 - Body Composition: Theory, Principles and Management

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

Prerequisite: KINES 1, KINES 31, KINES 32, KINES 33, KINES 35 (or BIOL 33), KINES 110, KINES 120 with a C grade or better, and KAC Area A, B, and C; course open to Physical Education majors only.
Study of a variety of recreational, multicultural, and non-traditional games, as well as outdoor education for lifelong participation.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Units: 3

KINES 123 - Analysis and Application: Rhythmic Movement in Physical Education

Prerequisite: KINES 1, KINES 31, KINES 32, KINES 33, KINES 35 (or BIOL 33), KINES 110, KINES 120 with a C grade or better; and KAC Area A, B, and C; course open to Physical Education majors only.
Study of a variety of recreational, multicultural,

and non-traditional games, as well as outdoor education for lifelong participation.

Weekly Lecture Hours: 1
Weekly Lab/Activity Hours: 4
Units: 3

Course Typically Offered: Fall

KINES 125A - Coaching Football

Principles underlying participation in competitive football.

Units: 3

Course Typically Offered: Spring

KINES 125B - Coaching Basketball

Principles underlying participation in competitive basketball.

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.

Units: 3

Course Typically Offered: Fall

KINES 126 - Analysis and Application: Aquatics

Prerequisite: KINES 1, KINES 31, KINES 32, KINES 35 (or BIOL 33), KINES 110, KINES 120 with a C grade or better; and KAC Aquatics requirement (KAC 4 KAC 6 or KAC 103) which may not be taken concurrently; course open to Physical Education majors only.
Overview of aquatics: elementary through advanced skills (infant through adult). Emphasis on sequencing skills and water safety certification. Required to teach PE in CA public schools.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2

Units: 3

Course Typically Offered: Fall, Spring

KINES 131 - Analysis and Application: Individual, Team and Fitness Activity

Prerequisite: KINES 1, KINES 31, KINES 32, KINES 33, KINES 35 (or BIOL 33), KINES 110, KINES 120 with a C grade or better; course open to Physical Education majors only. 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.

Weekly Lecture Hours: 1
Weekly Lab/Activity Hours: 4
Units: 3

Course Typically Offered: Fall

KINES 137 - Structural Biomechanics

Prerequisite: KINES 35 or BIOL 33 or BIOL 67A
Human movement: biological and mechanical bases, application of musculoskeletal considerations, and principles of mechanics to human movements.

Units: 3

Course Typically Offered: Fall

KINES 144I - Field Experience in Teaching

Prerequisite: KINES 1, KINES 31, KINES 32, KINES 33, KINES 35, KINES 110, KINES 116, KINES 118, KINES 120, KINES 122, KINES 123, KINES 126, KINES 131, KAC Area A, B, and C; course open to Physical Education majors only. 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)

Course Fee: CSU liability insurance fee, \$8

Units: 3

Course Typically Offered: Spring

KINES 146 - Risk Management of Sport & Exercise

Prerequisite: Physical Education major, or a B grade or better in KINES 45, KINES 111
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.

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.

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.

Units: 3

Course Typically Offered:

KINES 150I - Internship in Sport Administration

Prerequisite: senior standing, completion of all required courses in the Kinesiology - Sport Administration option and approval from Kinesiology - Sport Administration Option Coordinator
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: junior standing
Theory, analysis, and study of movement experiences, skills and materials, appropriate for elementary level school children.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2

Course Fee: CSU liability insurance fee, \$8

Units: 3

Course Typically Offered: Fall, Spring

KINES 157 - Adapted and Inclusive Physical Education

Prerequisite: KINES 1, KINES 31, KINES 32, KINES 110, KINES 120 and proof of current First Aid and CPR/AED certification for adult and child
The design, implementation, and evaluation of individualized adapted PE programs for students with disabling conditions in school & special settings.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Course Fee: CSU liability insurance fee, \$8

Units: 3

KINES 159 - Measurement and Evaluation

Prerequisite: KINES 1, KINES 31, KINES 110 and KINES 120; course open to Physical Education majors only.
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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
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.

Units: 3

Course Typically Offered: Fall

KINES 163 - Fitness and Wellness

Prerequisite: KINES 32
Prerequisite or Corequisite: KINES 118

Study, analysis, development, and practice of health related fitness and weight control programs for various populations. Note: Potential restricted admission during first week

of enrollment to students with senior status.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Units: 3

Course Typically Offered:

KINES 165 - Performance Related Fitness

Prerequisite or Corequisite: KINES 118 and KINES 116 or KINES 137

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. Note: Potential restricted admission during first week of enrollment to students with senior status.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Units: 3

Course Typically Offered: Fall, Spring

KINES 167 - Integrative Exercise Science

Prerequisite or Corequisite: KINES 116 and KINES 118

Integration of humanistic, physiological, and biomechanical aspects of exercise science through lectures, readings, discussions, and writing assignments. Note: Potentially restricted admission during first week of enrollment to students with senior status.

Units: 3

KINES 172SI - Seminar in Coaching and Sport Leadership

The purpose of this course is to provide students with a supervised opportunity to observe and participate in coaching and sport leadership. Discussion of coaching science and sport leadership issues in relation to service-learning observations, which is an integral component of the course. Students are encouraged to complete KINES 33 and/or KINES 162 prior to enrollment in this course. (Formerly KINES 180T)

Units: 3

Course Typically Offered: Fall, Spring

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** for a maximum of 12 units.

KINES 190 - Independent Study

See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3 **Repeatable** for a maximum of 6 units.

Course Typically Offered: Fall, Spring

KINES 199I - Supervised Work Experience

Prerequisite: upper-division status, GPA 2.5 last 30 units, permission of department chair and instructor
CR/NC grading only.

Course Fee: CSU liability insurance fee, \$8

Units: 1-3 **Repeatable** for a maximum of 6 units.

Course Typically Offered: Fall, Spring

KINES 222 - Biomechanics

Prerequisite: 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.

Units: 3

KINES 232 - Environmental Exercise Physiology

The physiological responses/adaptations/illnesses to heat, altitude, cold, hyperbaric, polluted, and microgravity environments with attention to human performance will be studied. Course will emphasize acute and chronic effects of heat and hydration on exercise performance.

Units: 3

KINES 233 - Metabolic and Neuromuscular Exercise Physiology

Prerequisite: 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.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 3

Units: 3

KINES 234 - Cardiovascular and Respiratory Exercise Physiology

Prerequisite: 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.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 3

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.

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.

Course Fee: CSU liability insurance fee, \$8

Units: 3

KINES 241 - Sport Leadership

This course explores the importance of leadership in sport, how to lead and solve 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.

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.

Units: 3

KINES 246 - Sport Revenue Streams

Examination of sport revenue streams, with emphasis on how to increase revenue via sport fundraising, sales, sponsorship, promotion, and licensing.

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.

Units: 3

KINES 250T - Topics in Kinesiology

Advanced studies in theoretical research in selected topics.

Units: 1-3 **Repeatable** for a maximum of 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.

Units: 3

KINES 263 - Psychology of Sport: Mental Training

An examination of the concepts in sports psychology, motivational variables, emotional states and personality variables; mental states, behavioral techniques and strategies; and issues in sports psychology.

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.

Units: 3

KINES 265 - Psychobiology of Sport and Exercise

Investigation of the relationship between sport, exercises, 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 RP grading.

Units: 3 **Repeatable** for a maximum of 6 units.

KINES 298 - Project

Preparation, completion, submission, and/or demonstration of an original project. Creativity shall be a prime factor. Approved for RP grading.

Units: 3-6

KINES 298C - Project Continuation

Prerequisite: 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

Preparation, completion, and submission of an acceptable thesis for the master's degree. Approved for RP grading.

Units: 6

KINES 299C - Thesis Continuation

Prerequisite: KINES 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

Latin

LATIN 1A - Elementary Latin

GE Area/Graduation Requirement: GE Breadth C2

Prerequisite: GE 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.

Units: 3

Course Typically Offered:

LATIN 1AH - Honors Elementary Latin

GE Area/Graduation Requirement: GE Breadth C2

Not open to students outside the Smitcamp 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.

Units: 3

LATIN 1B - Elementary Latin

GE Area/Graduation Requirement: GE Breadth C2

Prerequisite: GE 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.

Units: 3

Course Typically Offered:

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** for a maximum of 12 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** for a maximum of 6 units.

Literacy and Early Education

LEE 101S - Early Learning for School Success

This class looks at young children, birth to grade three, and early learning experiences at home and school that promote academic success for children having diverse backgrounds. Topics include life skills, literacy development, community learning resources, social interaction and early intervention.

Units: 3

Course Typically Offered: Fall, Spring

LEE 103 - Pedagogy for Teaching Ethnic Studies

Focuses on the development of critical pedagogy for pre-service and in-service teachers interested in teaching Ethnic Studies in K-12. Students will learn: The history and social foundations of U.S. education; the origins, present, and future of critical pedagogy; common core state-adopted standards and strategies to promote student success in multiple content areas; how to enact culturally and linguistically sustaining pedagogy.

Units: 3

Course Typically Offered: Fall

LEE 109S - Literacy Engagement in the Community

This 3-unit course is intended to provide an in-depth experience in individualized literacy assessment and instruction through service-learning. Students will work with children and their families as part of their coursework. This course is a service-learning course that will involve at least 23 hours of work with children and families.

Units: 3

Course Typically Offered: Fall, Spring

LEE 120CL - Problems in Education - Children's Literature

In-depth study of Children's Literature in education. Might require activities.

Units: 2-3

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** for a maximum of 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.

Units: 3

Course Typically Offered: Fall

LEE 135 - Teaching Content in Hmong

Prerequisite: Hmong 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 Hmong language in bilingual classrooms in local schools under university supervisor.

Units: 3

Course Typically Offered: Spring

LEE 136 - Teaching Content in Spanish

Prerequisite: spanish language fluency or permission of instructor
L1 pedagogy materials used to teach content in bilingual classrooms. Students will deliver lessons in the Spanish language in bilingual classrooms in local schools under university supervisor. For BAP credential candidates only. Not open to undergraduates.

Units: 3

Course Typically Offered: Fall

LEE 137 - Language and Literacy in Bilingual Education

Prerequisite: enrollment or completion of a Multiple Subject Credential or admission to the Liberal Studies Bilingual Authorization pathway Course taught in Spanish, focuses on literacy and advanced Spanish in bilingual education. Part of 3-course pathway to complete the Bilingual Program. Students must have passed lower division Spanish courses, such as Spanish 4A & 4B or passed language assessment. Advanced Spanish writing, reading, listening & speaking, needs of bilingual children, history of language policy, and how to create a multimodal literacy unit using bilingual children's texts.

Units: 3

Course Typically Offered: Fall, Spring

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

Prerequisite: admission to the Multiple Subject Credential Program or the Special Education Credential Program
Prerequisite or Corequisite: LEE 148

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/ linguistically diverse learners.

Units: 3

LEE 148 - Integrated Curriculum

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

Prerequisite: admission to the Multiple Subject Credential Program or the Special Education Credential Program
Corequisite: LEE 146
Balanced reading/ writing 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/ linguistically diverse students.

Units: 3

LEE 153 - Transitional Kindergarten Classroom Environments

The TK/ECE classroom environment is responsive to young children's learning and development. It includes organization, standards-based, core curriculum, grouping, materials, activity centers and partnering with parents. Adapting program for cultural and language differences and special needs are covered.

Units: 3

Course Typically Offered: Fall, Spring

LEE 154 - Content Area Language and Literacy Instruction

Prerequisite: admission to the Single Subject credential program
Prerequisite or Corequisite: 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: 5

Course Typically Offered:

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

Prerequisite: admission to the Single Subject Credential Program
Corequisite: 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 158 - Literacy Foundation TK-8

Teacher candidates will define literacy and investigate influential factors in becoming literate in multiple subject areas. Using Universal Design for Learning guiding principles, candidates will design and implement integrated, thematic literacy instruction and engage in cycles of reflective

practice.

Units: 3

Course Typically Offered: Fall, Spring

LEE 159 - Culturally and Linguistically Sustaining Pedagogy in the TK-8 Context

This course will address: 1) the impact of language and culture on teaching and learning in the elementary school, 2) language acquisition theory, socio-cultural context in teaching and instructional strategies for Emergent Bilinguals in the classroom, and 3) strategies to promote student success.

Units: 3

Course Typically Offered: Fall, Spring

LEE 160 - Inquiry and Puzzles of Practice A

Prerequisite: admission to the multiple subject credential program

This course will focus on action research, situate it within an equity-based paradigm, and focus on development of inquiry as stance. Students will explore problems of practice through engagement in cycles of inquiry from their fieldwork. In order to develop the stance necessary for reflective teaching, students need time to explore their own field-based problems of practice with an eye on critical, data-driven problem solving.

Units: 3

Course Typically Offered: Fall, Spring

LEE 166 - Disciplinary Literacies and Integrated Curriculum

Teacher candidates will examine how reading, writing, talking, listening and viewing are tools for learning content across the disciplines. A disciplinary literacy framework will guide an inquiry-based approach to curriculum planning, curriculum implementation, and assessment principles.

Units: 3

Course Typically Offered: Fall, Spring

LEE 167 - Inquiry and Puzzles of Practice B

Prerequisite: LEE 160

This course will focus on action research, situate it within an equity-based paradigm, and focus

on development of inquiry as stance. Students will explore problems of practice through engagement in cycles of inquiry from their fieldwork. In order to develop the stance necessary for reflective teaching, students need time to explore their own field-based problems of practice with an eye on critical, data-driven problem solving. (Formerly 180T)

Units: 3

Course Typically Offered: Fall, Spring

LEE 169S - Inquiry and Puzzles of Practice C

Prerequisite: LEE 167

This course will focus on formal engagements with inquiry and the development of teacher-as-researcher identity. In order to develop the stance necessary for reflective teaching, students will explore puzzles of practice through engagement in cycles of inquiry while conducting a service-learning project at their school site.

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

Corequisite: EHD 174 or permission of instructor

Prerequisite or Corequisite: CI 171 or

concurrent enrollment

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:

LEE 172ECES - Cultural Contexts of Teaching and Learning

Prerequisite: 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

Corequisite: EHD 174

Prerequisite or Corequisite: LEE 172

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:

LEE 173ECE - Teaching Literacy and English Language Development in Grades 4-8

Prerequisite: admission to Multiple Subject Credential, Early Childhood Education Program; completion or concurrent enrollment in CI 171ECE

Corequisite: EHD 174ECE

Prerequisite or Corequisite: 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

LEE 177 - Teaching Reading and the Arts in K-3

Prerequisite: CI 171, LEE 172, LEE 173, EHD 174, CI 175

Corequisite: EHD 178

Prerequisite or Corequisite: CI 176

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

Prerequisite: completion of Phase I Multiple Subject Credential, Early Childhood Education Program: CI 171ECE, LEE 172ECES, LEE 173ECE, EHD 174ECE, and CI 176

Corequisite: 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:

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 for a maximum of 9 units.

LEE 180W - Literacy for Social Justice and Equity

Prerequisite: GE Foundation A2 with a C grade or better.

Enrollment limited to Liberal Studies majors.

This course explores literacy for social justice and equity in schools, communities, and societies. Students will engage in reading, discussion, and the writing process. Meets the upper-division writing skills requirement for graduation.

Units: 3

Course Typically Offered: Spring

LEE 190 - Independent Study

See Academic Placement -- Independent Study. Approved for RP grading.

Units: 1-3 Repeatable for a maximum of 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.

Course Fee: 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

Prerequisite: 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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Course Fee: 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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
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.

Course Fee: CSU liability insurance fee, \$8

Units: 3

LEE 244 - Research for Reading Professionals

Prerequisite: 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 research; 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.

Course Fee: CSU liability insurance fee, \$8

Units: 3

LEE 256 - Content Area Literacy and Communication in Secondary Classrooms

This is a graduate-level Language and Literacy Education seminar for secondary educators representing a range of content areas. Designed as a collaborative inquiry, this course hinges on teachers posing problems to support adolescent literacy.

Units: 3

Course Typically Offered: Spring

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.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

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 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** for a maximum of 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: 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 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: LEE 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

Linguistics

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 linguistics major or minor.

Units: 3

Course Typically Offered:

LING 10 - Introduction to Language

GE Area/Graduation Requirement: GE Breadth C2

Prerequisite: GE 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.

Units: 3

Course Typically Offered:

LING 11 - Linguistics for Teachers

Prerequisite: GE Foundation A2
Open to liberal studies majors only. 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

GE Area/Graduation Requirement: GE Breadth E

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.

Units: 3

Course Typically Offered: Fall, Spring

LING 40T - Topics in Linguistics

Topics to be offered at the discretion of the department.

Units: 1-4 **Repeatable** for a maximum of 12 units.

LING 100 - General Linguistics

Linguistics methodology: phonology, morphology, syntax, and semantic analysis. Language history: variation and change.

Units: 3

Course Typically Offered: Fall, Spring

LING 110W - Advanced Composition for Foreign Students

Prerequisite: GE Foundation A2 with a C grade or better.

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:

LING 111W - Academic Writing Workshop

Prerequisite: GE Foundation A2 with a C grade or better.

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

GE Area/Graduation Requirement: GE Integration IC

Prerequisite: GE Foundation and Breadth 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.

Units: 3

Course Typically Offered: Fall, Spring

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.

Units: 3

Course Typically Offered:

LING 121 - Hmong Language, Culture, and Identity

Prerequisite: GE Foundation and Breadth 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:

LING 130 - Language and Gender

GE Area/Graduation Requirement: GE Integration IC

Prerequisite: GE Foundation and Breadth 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.

Units: 3

Course Typically Offered: Fall, Spring

LING 132 - Linguistics and Reading

Prerequisite: LING 10 or LING 11 or LING 100 for senior Liberal Studies students and Child Development Pre-Credential students; no course requisites for senior Linguistics majors 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

GE Area/Graduation Requirement: GE Integration IC

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.

Units: 3

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.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

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 for a maximum of 12 units.

LING 141 - TESOL/SLAT (Second Language Acquisition & Teaching)

This course introduces students to the theories and methods of teaching English and/or second/foreign languages to speakers of other languages.

Units: 3

Course Typically Offered: Fall, Spring

LING 142 - Phonology

Prerequisite: LING 139 passed with C grade 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

GE Area/Graduation Requirement:
Multicultural/International

Prerequisite: GE Foundation and Breadth 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.

Units: 3

Course Typically Offered:

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

Prerequisite: LING 100 or equivalent or
permission of instructor

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 139, LING 142, and LING
143

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.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Units: 3

Course Typically Offered: Fall

LING 156 - Semantics

Prerequisite: LING 100; LING 143 strongly
recommended

Introduction to the logical foundations of natural
semantics; logical and semantic relations,
logical representations and their interpretations;
the nature of reference, inference, and
presupposition in natural languages. (Formerly
LING 140T)

Units: 3

Course Typically Offered: Fall, Spring

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 171I - Practicum in TESOL/SLAT

Prerequisite: LING 141

Provides practice in teaching English and/or
foreign language listening, speaking, reading,
and writing. Students complete an internship
which includes class visitations, demonstrations,
and lesson planning.

Units: 3

Course Typically Offered:

LING 190 - Independent Study

See Academic Placement -- Independent Study.
Approved for RP grading.

Units: 1-3 **Repeatable** for a maximum of 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** for a maximum of 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** for a maximum of 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 permission 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 241S - Seminar in TESOL/SLAT

Prerequisite: LING 141 and LING 1711
This course expands on the research, theory, and pedagogy in the field of Teaching English to Speakers of Other Languages (TESOL) and Second Language Acquisition and Teaching (SLAT). Students will gain hands on experience in teaching languages through a service-learning project.

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 acquisition studies to our understanding of diachronic grammar and its reconstruction. 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 permission 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.

Units: 3

LING 249 - Field Methods

Prerequisite: LING 142 or LING 143 or permission 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

LING 251 - Seminar in Discourse Analysis

Prerequisite: LING 144 or permission of instructor
Exploration and analysis of the functional and other linguistic bases for the organization of units larger than the sentence.

Units: 3

LING 265 - Seminar in Language Acquisition

Prerequisite: LING 165

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** for a maximum of 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: 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

Liberal Studies

LS 100T - Topics in Liberal Studies

Open to Liberal Studies majors only. Issues and topics in Liberal Studies.

Units: 1-3 **Repeatable** for a maximum of 6 units.

LS 110WS - Writing in the K-8 Classroom

Prerequisite: GE Foundation A2 with a C grade or better.

Enrollment limited to Liberal Studies majors. This course explores teaching writing in the K-8 classroom. This course is a writing intensive (W) course. In addition, service-learning (S-L) is an integral component of this course involving at least 20+ hours of work with children and reflections over the course of the semester. Meets the upper-division writing skills requirement for graduation.

Units: 3

Course Typically Offered: Fall, Spring

LS 111 - Literacies, Languages, and Literature

This course explores the teaching of Literacies, Languages, and Literature while examining theories, research, and practices of literacies, this course will provide an introduction to literacy assessment and instructional approaches to reading, writing, speaking, and listening. Through guiding principles of Culturally Sustaining Pedagogy (CSP) and Universal Design for Learning (UDL), students will develop knowledge of children's literature and explore ways to integrate children's literature into elementary curricula.

Units: 3

Course Typically Offered: Fall, Spring

LS 115 - Understanding and Applying Social Science Content, Pedagogy, & Technology in K-12

This Liberal Studies capstone course presents students with a framework for Social Science teaching and learning that is relevant to and embedded in the needs of diverse learners in California's Central Valley. Universal Access is a concept that encompasses planning for the greatest diversity of students from the beginning of planning, rather than adapting a reactive manner. (Formerly EHD 180T)

Units: 3

Course Typically Offered: Fall, Spring

LS 120 - Community-Based Learning in STEM

Prerequisite: enrollment is limited to seniors who completed 90 units of the Liberal Studies
This course is designed to prepare preservice elementary teachers to teach Science, Technology, Engineering, and Mathematics (STEM) in integrated, learner-centered, and culturally sustainable ways. (Formerly EHD 180T)

Units: 3

Course Typically Offered: Fall, Spring

Mathematics

MATH 3 - College Algebra

Prerequisite: Mathematics placement category I or II. Students in Mathematics placement category III or IV must take MATH 3L
No credit if taken after MATH 6, MATH 70, MATH 75 or MATH 75A. Students in Mathematics placement category III or IV must take MATH 3L. 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 3L - College Algebra w/ Support

No credit if taken after MATH 6, MATH 70, MATH 75 or MATH 75A. Equations and inequalities; rectangular coordinates; systems of equations and inequalities; polynomial, rational, exponential, and logarithmic functions and their graphs; complex numbers.

Weekly Lecture Hours: 3
Weekly Lab/Activity Hours: 3
Units: 4

Course Typically Offered:

MATH 5 - Trigonometry

Prerequisite: Mathematics placement category I or II
Prerequisite or Corequisite: MATH 3 for category standing III or IV

No credit if taken after MATH 75 or MATH 75A and MATH 75B. 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).

Units: 3

Course Typically Offered: Fall, Spring

MATH 6 - Precalculus

GE Area/Graduation Requirement: GE Foundation B4

Prerequisite: Mathematics placement category I or II

No credit if taken after MATH 75 or MATH 75A and MATH 75B. Basic algebraic properties of real numbers; linear and quadratic equations and inequalities; functions and graphs; polynomials; exponential and logarithmic functions; analytic trigonometry and functions.

Weekly Lecture Hours: 3

Weekly Lab/Activity Hours: 2

Units: 4

Course Typically Offered:

MATH 10A - Structure and Concepts in Mathematics I

GE Area/Graduation Requirement: GE Foundation B4

Prerequisite: Mathematics placement category I or II; students in mathematics placement category III or IV must take MATH 10AL. 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 GE Foundation B4 requirement only for Liberal Studies majors.

Units: 3

Course Typically Offered: Fall, Spring

MATH 10AL - Structure and Concepts in Mathematics I w/Support

GE Area/Graduation Requirement: GE Foundation B4

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 GE Foundation B4 requirement only for Liberal Studies majors.

Weekly Lecture Hours: 3

Weekly Lab/Activity Hours: 3

Units: 4

Course Typically Offered:

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 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

GE Area/Graduation Requirement: GE Foundation B4

Prerequisite: Mathematics placement category I or II; students in Mathematics placement category III or IV must take MATH 11L. 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 MATH 75B take MATH 101.

Units: 3

Course Typically Offered:

MATH 11L - Elementary Statistics w/Support

GE Area/Graduation Requirement: GE Foundation B4

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 MATH 75B take MATH 101.

Weekly Lecture Hours: 3

Weekly Lab/Activity Hours: 3

Units: 4

MATH 45 - What Is Mathematics?

GE Area/Graduation Requirement: GE Foundation B4

Prerequisite: Mathematics placement category I or II; students in Mathematics placement category III or IV must take MATH 45L. 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.

Units: 3

Course Typically Offered: Fall, Spring

MATH 45L - What Is Mathematics w/Support

GE Area/Graduation Requirement: GE Foundation B4

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.

Weekly Lecture Hours: 3

Weekly Lab/Activity Hours: 3

Units: 4

MATH 70 - Calculus for Life Sciences

GE Area/Graduation Requirement: GE Foundation B4

Prerequisite: Mathematics placement category I or II and calculus placement according to department standards.

No credit if taken after MATH 75 or MATH 75A and MATH 75B. Functions and graphs, limits, derivatives, antiderivatives, differential equations, and partial derivatives with applications in Life Sciences.

Units: 4

Course Typically Offered: Fall, Spring

MATH 75 - Calculus I

GE Area/Graduation Requirement: GE Foundation B4

Prerequisite: Mathematics placement category I or II, and calculus placement according to department standards.

No credit if taken after MATH 76. Functions, graphs, limits, continuity, derivatives and applications, definite and indefinite integrals.

Weekly Lecture Hours: 3

Weekly Lab/Activity Hours: 2

Units: 4

Course Typically Offered: Fall, Spring

MATH 75A - Calculus with Review IA

GE Area/Graduation Requirement: GE Foundation B4

Prerequisite: Mathematics placement category I or II, and calculus placement according to department standards.

No credit if taken after MATH 76. Functions, graphs, limits, continuity, derivatives, and applications, with extensive review of algebra and elementary functions. With MATH 75B, equivalent to MATH 75.

Units: 4

Course Typically Offered: Fall, Spring

MATH 75B - Calculus with Review IB

Prerequisite: MATH 75A

No credit if taken after MATH 76. 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 MATH 75B

No credit if taken after MATH 77. Techniques and applications of integration, improper integrals, conic sections, polar coordinates, infinite series.

Weekly Lecture Hours: 3

Weekly Lab/Activity Hours: 2

Units: 4

Course Typically Offered:

MATH 77 - Calculus III

Prerequisite: MATH 76

No credit taken after MATH 81. Vectors, three-dimensional calculus, partial derivatives, multiple integrals, Green's Theorem, Stokes' Theorem.

Units: 4

Course Typically Offered: Fall, Spring

MATH 81 - Elementary Differential Equations with Linear Algebra

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:

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:

MATH 101 - Statistical Methods

Prerequisite: MATH 70 or MATH 75 or MATH 75A and MATH 75B

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:

MATH 102 - Introduction to Biostatistics

Prerequisite: MATH 6 or

Prerequisite or Corequisite: MATH 70 or MATH 75

Introduction to statistical methods used in

biological experiments and data analyses, with emphasis on interpretation, presentation, and writing statistical reports. Topics include describing and visualizing data, sampling methods, probability, experimental design, hypothesis testing, regression, ANOVA and nonparametric tests. This course satisfies the statistics requirement for Biology majors. Students majoring in Biology or a closely related major can benefit greatly from taking this course.

Units: 4

Course Typically Offered:

MATH 105 - Statistical Programming and Data Analysis

Prerequisite:

MATH 11 or MATH 101 or permission of instructor

Introduction to SAS and R through programming and data analysis. Topics include data access, data structure, data management and manipulation, simulations, arrays, matrices, graphics, custom functions, and standard statistical techniques in SAS/R.

Units: 3

Course Typically Offered: Fall

MATH 106 - Applied Linear Statistical Models

Prerequisite: MATH 75; MATH 11 or MATH 101 or permission of instructor

Topics include simple linear regression, parameter inference, interval estimation, prediction, diagnostics and remedial measures, multiple linear regression, model selection and validation, generalized linear models, ridge regression, LASSO.

Units: 3

Course Typically Offered: Spring

MATH 107 - Mathematical Statistics

Prerequisite or Corequisite: MATH 77

Probability theory; discrete and continuous distributions; random variables; conditional distributions; multivariate distributions; limit theorems; maximum likelihood methods.

Units: 3

Course Typically Offered: Fall

MATH 108 - Advanced Mathematical Statistics

Prerequisite: MATH 107

Statistical inferences; sufficiency; optimal hypothesis tests; inferences from normal theory, nonparametric statistics; elementary decision theory; Bayesian statistics.

Units: 3

Course Typically Offered:

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: Fall

MATH 110 - Symbolic Logic

Prerequisite: MATH 75 or MATH 75A and MATH 75B

(Similar to PHIL 145; consult department.) 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. Use of LaTeX as a typesetting tool. Topics include set theory, symbolic logic, types of proofs, and mathematical induction. Emphasis on students constructing, explaining, and justifying mathematical arguments through active learning.

Units: 4

Course Typically Offered: Fall, Spring

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: Spring

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

MATH 120 - Mathematical Software and Programming

Prerequisite: CSCI 40 or ECE 71 or permission of instructor

Prerequisite or Corequisite: MATH 76

Introduction to programming usage in mathematics and/or statistics, including computer algebra software, an interpreted object-oriented high-level programming language, and topics related to statistics, database management, optimization, and/or cloud computing. (Formerly MATH 191T)

Units: 3

MATH 121 - Numerical Analysis I

Prerequisite: MATH 77; CSCI 40 or ECE 71

Computer arithmetic, solutions of equations using iterative techniques, interpolation, numerical differentiation, quadrature, and numerical ordinary differential equations. Use of numerical software libraries.

Units: 3

Course Typically Offered: Fall, Spring

MATH 122 - Numerical Analysis II

Prerequisite: MATH 121, MATH 152

Systems of linear equations, Gaussian elimination with pivoting, matrix inversion, determinant of a matrix, SVD, LU and Cholesky factorization of a matrix, iterative techniques, orthogonal matrix, QR factorization, Gram-

Schmidt and Householder methods, approximating eigenvalues, systems of nonlinear equations, steepest descent techniques, Newton's method, and rational approximation.

Units: 3

Course Typically Offered: Fall

MATH 123 - Mathematical Modeling

GE Area/Graduation Requirement: GE Integration IB

Prerequisite: MATH 77

Application of mathematical techniques to solve selected problems in areas such as ecology, biology, economics, finance, social sciences, life sciences, physical sciences and engineering. The emphasis will be on building mathematical models and on interpreting the solutions of these models in terms of real-life applications. G.E. IB for BS in Mathematics-Integrated Credential Option only.

Units: 3

Course Typically Offered:

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:

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:

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:

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:

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:

MATH 143 - History of Mathematics

Prerequisite: MATH 75 or MATH 75A and MATH 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: Fall, Spring

MATH 145 - Problem Solving

Prerequisite: MATH 111

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, Spring

MATH 149S - Capstone Mathematics for Teachers

Prerequisite: MATH 151

Prerequisite or Corequisite: MATH 145 and MATH 161

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 schools. In collaboration with local in-service teachers and university faculty, students will actively explore topics in number theory, algebra, analysis, geometry, and apply their content knowledge in a service-learning context.

Units: 4

Course Typically Offered:

MATH 151 - Principles of Algebra

Prerequisite: MATH 152 or permission of instructor, and MATH 111

Groups; subgroups; cyclic groups; group homomorphisms and isomorphisms; factor groups; direct products of groups. Rings; matrix rings; polynomial rings; ring homomorphisms and isomorphisms; ideals; factor rings; direct products of rings. Integral domains; fields.

Units: 4

Course Typically Offered:

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:

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

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

Prerequisite: MATH 81

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. Approved for RP grading.

Units: 1-3 **Repeatable** for a maximum of 6 units.

Course Typically Offered: Fall, Spring

MATH 191T - Proseminar

Prerequisite: permission of instructor

Presentation of advanced topics in mathematics in the field of the student's interest.

Units: 1-3

MATH 192 - Undergraduate Mathematics Seminar

Prerequisite: MATH 76 or permission of instructor

Presentations on various topics in mathematics. The course is intended for STEM students with a strong interest in mathematics. It is an upper division elective course.

Units: 1

Course Typically Offered: Fall

MATH 193A - JR SEM APPLIED MATH

Prerequisite: junior standing; MATH 111 and at least two of the following: MATH 109, MATH 121, MATH 122, MATH 123, MATH 152, MATH 181, and MATH 182, or permission from instructor

The seminar features talks in applied mathematics given by faculty, guest speakers, and/or senior mathematics majors who previously took this seminar and have taken or are enrolled in MATH 198. Student presentations will preferably be related to presenter's work in MATH 198, which must be on advanced topics in applied mathematics. The seminar is part of the culminating experience for the Applied Mathematics option. (Formerly MATH 191T)

Units: 1

Course Typically Offered:

MATH 193B - JR SEM PURE MATH

Prerequisite: junior standing; MATH 111 or permission from instructor

Prerequisite or Corequisite: MATH 152

The seminar features talks in pure mathematics given by mathematics faculty, guest speakers, and/or senior mathematics majors who previously took this seminar and have taken or are enrolled in MATH 198. Student presentations will preferably be related to presenter's work in MATH 198, which must be on advanced topics in pure mathematics. The seminar is part of the culminating experience for the Pure Mathematics option in the B.S. in Mathematics. (Formerly MATH 191T)

Units: 1

Course Typically Offered:

MATH 193C - RESEARCH SEM STATISTICS

Prerequisite: MATH 107 or permission from instructor

Prerequisite or Corequisite: MATH 106

Presentations and discussions given by mathematics faculty, guest speakers, and students on data analysis and/or advanced topics in statistics. The seminar is the culminating experience for the Statistics option in the B.S. in Mathematics. (Formerly MATH 191T)

Units: 1

Course Typically Offered:

MATH 193D - JR SEM MATH TEACH

Prerequisite: junior standing; MATH 111 and at least one of MATH 101, MATH 143, MATH 145, or permission from instructor
Undergraduate seminar featuring talks in mathematics education given by faculty, guest speakers, and students. Student presenters in this seminar will showcase their experiences from educational settings (preferably related to the service-learning component of MATH 149S) or research in mathematics education. Reflections, debates, discussions, and lesson plans. The seminar is a requirement for the Teaching and Integrated Credential options in the B.S. in Mathematics. (Formerly MATH 191T)

Units: 1

Course Typically Offered:

MATH 198 - Senior Project

Prerequisite: MATH 151 and MATH 171 (one of which may be taken concurrently) or permission of instructor
Independent investigation of an advanced topic in mathematics, statistics, or mathematics education. Presentation by the student in a seminar setting and a final report are required. Satisfies part of the culminating experience requirement for the Applied and Pure Mathematics options of the B.S. in Mathematics.

Units: 3

Course Typically Offered: Fall, Spring

MATH 200 - Research Methods in Mathematics Education

This course covers quantitative and qualitative methods of researching how people think and learn about mathematics, and how research informs the teaching of mathematics. Content includes research design, use of statistical analyses, and critical examination of research in mathematics education.

Units: 3

Course Typically Offered: Fall

MATH 201 - Cognition in Mathematics

This course explores theories and empirical studies which examine the development of students' and teachers' knowledge and practices in mathematics. A central theme of the course is the examination of research on the use of technology in the teaching of mathematics.

Units: 3

Course Typically Offered: Fall

MATH 202 - Fundamental Concepts of Mathematics

Prerequisite: 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.

Units: 3

MATH 220 - Coding Theory

Prerequisite: 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

Course Typically Offered: Spring

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

Course Typically Offered: Spring

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

Course Typically Offered: Spring

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

Course Typically Offered: Fall

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 or permission of instructor

Semi-direct products of groups; isomorphism theorems. Group actions; Sylow theorems; classification of groups of small order; finitely generated Abelian groups. Rings and ideals; quotient rings; domains (ED, PID, UFD); polynomial rings.

Units: 3

Course Typically Offered: Spring

MATH 252 - Abstract Algebra II

Prerequisite: MATH 251

Field extensions; automorphisms of fields; Galois theory. Additional topics to be chosen from (1) modules, (2) linear and multilinear algebra and (3) representation theory.

Units: 3

Course Typically Offered: Fall

MATH 260 - Perspectives in Geometry

Prerequisite: MATH 151 and MATH 152 or permission of instructor

Geometry from a transformations point of view. Projective geometry: theorems of Ceva, Menelaus, Desargues, and Pappus; conics; coordinatization. Transformations of the plane (Euclidean and projective); tessellations; wallpaper groups. Further topics to be selected from Incidence Geometry, Differential Geometry, or Algebraic Geometry.

Units: 3

Course Typically Offered: Spring

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

Course Typically Offered: Fall

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 Analysis

Prerequisite: MATH 172

Lebesgue's measure and integration theory on the real line. Limit theorems and types of convergence. L_p spaces. Differentiation and integration.

Units: 3

Course Typically Offered: Fall

MATH 272 - Functional Analysis

Prerequisite: MATH 271 or permission of instructor

Elements of the theory of abstract spaces. The three fundamental principles of linear functional analysis (Hahn-Banach Theorem, Uniform

Boundedness Principle, and Open Mapping Theorem) and their implications. Duality and reflexivity of normed vector spaces, geometry of Hilbert spaces. (Formerly MATH 291T)

Units: 3

Course Typically Offered: Spring

MATH 290 - Independent Study

See Academic Placement. Approved for RP grading.

Units: 1-3 **Repeatable** for a maximum of 6 units.

Course Typically Offered: Fall, Spring

MATH 291T - Seminar

Prerequisite: graduate standing
Presentation of current mathematical research in field of student's interest.

Units: 1-3 **Repeatable** for a maximum 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

Course Typically Offered: Fall, Spring

MATH 298C - Project Continuation

Prerequisite: 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

Course Typically Offered: Fall, Spring

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

Course Typically Offered: Fall, Spring

Master of Business Administration

MBA 200 - Managerial Economics

Prerequisite: 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

Prerequisite: 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

Prerequisite: 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 analysis and forecasting; simulation.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
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

Prerequisite: admission to the program or permission of director
Prerequisite or Corequisite: MBA 203

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

Prerequisite: 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

Prerequisite: 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

Prerequisite: 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

Prerequisite: MBA 200, MBA 201, MBA 204
Prerequisite or Corequisite: MBA 203

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

Prerequisite: MBA 210, MBA 211, MBA 212, MBA 213
Prerequisite or Corequisite: MBA 214

Relationships among personal ethics, corporate social responsibility, and regulatory policy on business decision-making. Evaluation of business decisions, corporate goals, and regulatory statutes and processes in terms of their ethical quality and adherence to sound policy.

Units: 3

MBA 216 - Business Research

Prerequisite: 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 - Seminar in Cost Accounting

Prerequisite: 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; standards, budgets, and analysis variance for planning and control purposes; divisional performance; and transfer pricing issues.

Units: 3

MBA 221 - Seminar in International and Nonprofit Accounting

Prerequisite: 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 options, 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.

Units: 3

MBA 235 - Urban Economics with UrbanPlan

Prerequisite: current MBA student or permission of 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 Industrial 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 Resource 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

Analysis 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

MBA 245 - Seminar in Negotiation and Conflict Resolution Topics

Analysis of resolving conflicts in the workplace. Addresses 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 demographics, and the human resource professional acting as a change agent.

Units: 1-2

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

MBA 250 - Seminar in End User Computing

Prerequisite or Corequisite: 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 - Seminar 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.

Units: 3

MBA 261 - Seminar in Global Marketing and E-Business

Prerequisite: MBA 214

Analysis of problems of product 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

Prerequisite: 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 through 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 instructor

Study of the management and 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 and 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 business 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 or Corequisite: Group II

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; permission of director and instructor
Approved for RP grading.

Units: 1-3 **Repeatable** for a maximum of 6 units.

MBA 292 - Readings in Business

Prerequisite: advanced to candidacy; permission of director
Approved for RP grading.

Units: 2-3

MBA 295I - 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 candidacy, 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 functional area of an organization. Case studies and field research project. Approved for RP grading.

Units: 3

MBA 298C - Project Continuation

Prerequisite: 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

Prerequisite: MBA 216, advanced to candidacy, 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 RP grading.

Units: 3

MBA 299C - Thesis Continuation

Prerequisite: MBA 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

Media, Communication and Journalism

MCJ 1 - Mass Communication and Society

GE Area/Graduation Requirement: GE Breadth D2

Prerequisite: GE Foundation A2 for students in English college -readiness Category III and IV 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.

Units: 3

Course Typically Offered: Fall, Spring

MCJ 2 - Media Writing

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. (Formerly MCJ 10)

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Units: 3

Course Typically Offered:

MCJ 3 - 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. (Formerly MCJ 30)

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Units: 3

Course Typically Offered: Fall, Spring

MCJ 4 - Writing for Visual Media

Theory and practice of story development and scriptwriting for fiction and non-fiction film and video, including narrative film, documentary, business and sponsored video. Explores research, story structure, treatments, proposals, script formats and the use of interview, narration and dialog.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Units: 3

Course Typically Offered: Fall, Spring

MCJ 5 - Grammar for Media and Communication Professionals

Application of basic language skills to media writing and Editing. Recommended for all majors.

Units: 3

Course Typically Offered: Fall, Spring

MCJ 6 - Asian American Newspapers and Mass Media

GE Area/Graduation Requirement: GE Breadth F

(ASAM 10 same as MCJ 6) This course equips students with an understanding of the principles and practices of Asian American journalism

through examination of Asian American newspapers and mass media. This includes examination of mass media as well as independent newspapers, magazines, zines, and other media products made by Asians and Asian Americans. Includes analysis of representations of Asian American media throughout U.S. cultural history.

Units: 3

Course Typically Offered:

MCJ 9 - Film Appreciation

GE Area/Graduation Requirement: GE Breadth C1

An examination of the art and industry of filmmaking using classical Hollywood, independent, international, and popular films.

Units: 3

Course Typically Offered: Fall, Spring

MCJ 13 - Introduction to Studio Video Production

Introductory television studio production principles and techniques. Design and execution of multi-camera video productions.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 3

Course Fee: \$50

Units: 3

Course Typically Offered: Fall, Spring

MCJ 14 - Multimedia and Mobile Journalism

Integration of print and broadcast techniques to produce multimedia pieces for the web, social, mobile and other electronic media. Multimedia storytelling incorporating writing, digital photography, video, audio, and animation.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Course Fee: \$20

Units: 3

Course Typically Offered: Fall, Spring

MCJ 15 - Filmmaking I

Introduction to video production and post-production principles and techniques in visual storytelling. Execution of video projects.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Course Fee: \$40

Units: 3

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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Course Fee: course fee, \$40

Units: 3

MCJ 40 - Introduction to Advertising and Public Relations

This course provides a broad overview of the advertising and public relations industries. Topics covered include a brief history of both fields, their relationship to businesses, institutions, organizations, and the economy in general, as well as role of the social sciences in both. Ethical considerations in both fields are emphasized.

Units: 3

Course Typically Offered:

MCJ 60 - Film Theory

Prerequisite: MCJ 9 recommended
An intermediate course in the study of film theory. Foundational film theories will be discussed in addition to emerging critical analysis of the cinematic arts. (3 units, discussion)

Units: 3

MCJ 70 - Media Theory

This class examines the history, development, elements of prominent mass communication, journalism and media theories and their application in the field.

Units: 3

Course Typically Offered: Fall, Spring

MCJ 101 - News and Media Literacy

GE Area/Graduation Requirement: GE Integration ID

Prerequisite: GE Foundation and Breadth D
Explores how media content is developed, published, and interpreted. Sources and messages will be examined for accuracy, bias, propaganda, disinformation, and misleading argumentation. Develops critical thinking skills to cultivate digital citizenship. It is usually expected that students will spend approximately 2 hours of study time outside of class for every one hour in class. Since this is a 3-unit class, you should expect to study an average of 6 hours outside of class each week. (Formerly MCJ 177T)

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Units: 3

Course Typically Offered: Fall, Spring

MCJ 102W - Reporting

Prerequisite: MCJ 2 and GE Foundation A2 with a C grade or better.
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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Units: 3

Course Typically Offered: Fall, Spring

MCJ 103 - Journalism and the Military

Prerequisite: MCJ 2 or permission of instructor
Instruction and practice in how to cover and write about military affairs and veterans. Techniques of interviewing applied to specific reporting situations; coverage of veterans events; interviews with veterans; and instruction in various military affairs principles will be included in the course.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Units: 3

Course Typically Offered: Fall

MCJ 104 - Editing for Digital Journalism

Prerequisite: MCJ 2
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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Units: 3

Course Typically Offered: Fall, Spring

MCJ 105 - News Practicum

Prerequisite: MCJ 2 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.

Weekly Lecture Hours: 1
Weekly Lab/Activity Hours: 4
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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Units: 3

Course Typically Offered: Fall, Spring

MCJ 107 - Data Journalism

Prerequisite: MCJ 2
This course will provide students with the tools needed to find data, show them how to distinguish good data from misleading data, teach them how to properly use data in their reporting and writing, and how to visualize the data.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Units: 3

MCJ 108 - Public Affairs Reporting

Prerequisite: MCJ 2, MCJ 102W or permission of instructor
Advanced reporting for the media with emphasis on public affairs journalism.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Units: 3

Course Typically Offered: Fall, Spring

MCJ 109 - Law and Order Reporting

Prerequisite: MCJ 2

Instruction and practice in how to cover and write about the criminal justice system.

Techniques of interviewing applied to specific reporting situations; coverage of criminal justice events; and instruction in various criminal justice principles will be included in the course.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Units: 3

MCJ 111 - Post-Production

Prerequisite: MCJ 15

This class covers a wide range of topics relating to digital post-production, including editing, sound design, music underscoring, basic visual effects, color correction, motion graphics and exporting final projects for various exhibition platforms.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Units: 3

Course Typically Offered: Fall

MCJ 112 - Audio Production

Prerequisite: MCJ 3

Introduction to the art of audio storytelling and basic digital audio production techniques. Design and execution of audio-based projects.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Course Fee: \$40

Units: 3

Course Typically Offered:

MCJ 113 - Advanced Television Studio Production

Prerequisite: MCJ 13 or permission of instructor
Advanced television studio production principles and techniques. Design and execution of multi-camera video productions.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 3

Course Fee: \$50

Units: 3

Course Typically Offered: Fall

MCJ 114W - Screenwriting

Prerequisite: GE Foundation A2 with a C grade or better. MCJ 4 recommended

An advanced course in the theory and practice of screenwriting for longer format narrative projects. Students will develop feature-length screenplays or pilot scripts for an episodic series. Meets the upper-division writing skills requirement for graduation.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Units: 3

MCJ 115 - Filmmaking II

Prerequisite: MCJ 15

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.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Course Fee: \$40

Units: 3

Course Typically Offered: Fall

MCJ 116 - Documentary Film and Video Production

Prerequisite: MCJ 4 and MCJ 115

Exploration of key concepts of non-fiction visual storytelling techniques and practice using a single camera approach. Projects are intended for public distribution.

Weekly Lecture Hours: 1

Weekly Lab/Activity Hours: 4

Course Fee: \$40

Units: 3

Course Typically Offered: Fall

MCJ 117 - Narrative Filmmaking

Prerequisite: MCJ 4 and MCJ 115

Exploration of narrative filmmaking and the creative techniques and aesthetics common to producing a dramatic story in the single-camera film style. Analysis of film genres, visual storytelling and sound design of classic and contemporary cinema. Laboratory and field experiences in producing film projects.

Weekly Lecture Hours: 1

Weekly Lab/Activity Hours: 4

Course Fee: \$40

Units: 3

MCJ 118S - Corporate and Nonprofit Media Projects

Prerequisite: MCJ 3 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.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Course Fee: \$40

Units: 3

Course Typically Offered: Spring

MCJ 119E - Creative Media Production and Entrepreneurship

Fundamentals of entrepreneurial concepts, business management, independent production, and career opportunities as they relate to filmmakers and media producers. (Formerly MCJ 177T)

Units: 3

Course Typically Offered: Spring

MCJ 120 - Multimedia Production Studio Practicum

Prerequisite: MCJ 3

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** for a maximum of 6 units.

Course Typically Offered: Fall, Spring

MCJ 121 - News Video Production

Prerequisite: MCJ 15 or permission of instructor
News & nonfiction video production and post-production principles and techniques in visual storytelling. This will include single-camera

videography, pre-production planning, production execution, post-production, graphics, and multimedia techniques for news.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Course Fee: \$40

Units: 3

Course Typically Offered: Fall, Spring

MCJ 123 - Fresno State Focus Crew

Advanced Production crew for Fresno State Focus newscasts; as newscast director, technical director, floor director, graphics operator, and audio engineer.

Weekly Lecture Hours: 1
Weekly Lab/Activity Hours: 6
Course Fee: \$50

Units: 3 **Repeatable** for a maximum of 6 units.

Course Typically Offered: Fall, Spring

MCJ 124 - Intermediate Broadcast News Writing

Prerequisite: MCJ 2
Gathering, writing, and editing news for distribution by broadcast and online news media.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Course Fee: \$10

Units: 3

Course Typically Offered: Fall, Spring

MCJ 125 - Radio Reporting and Podcasting

Prerequisite: MCJ 2
Basics of radio news: gathering, writing, editing, and producing news reports and features and anchoring newscasts for campus radio station KFSR and streaming online. (Formerly MCJ 177T)

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Course Fee: \$30

Units: 3

MCJ 126 - Media Performance

Studio performance training for television and radio; exercises for improving articulation, pronunciation, interpretation, vocal quality, interview techniques, and on-camera performance.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Course Fee: \$15

Units: 3

Course Typically Offered: Fall, Spring

MCJ 128 - TV/Multimedia News Reporting and Production

Prerequisite: MCJ 121, MCJ 124, and MCJ 126 or permission of instructor
Practical experience in multiplatform news producing, reporting, and anchoring intended for broadcast, cable, mobile and online distribution. Lecture and lab experiences focus on all aspects of news production including news editorial, field video, multimedia, online, mobile and TV studio production.

Weekly Lecture Hours: 1
Weekly Lab/Activity Hours: 9
Course Fee: \$50

Units: 4 **Repeatable** for a maximum of 8 units.

Course Typically Offered: Fall, Spring

MCJ 129 - Global Campus Studio

Prerequisite: MCJ 2 or permission of instructor
This course covers a wide range of aspects of international reporting through reading, lectures, class discussion, multimedia projects and collaboration with students at universities in Canada, Europe, the Middle East and Asia. (Formerly MCJ 177T)

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Units: 3

MCJ 131 - Online Media Design

Prerequisite: MCJ 3, MCJ 106 and MCJ 115, 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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Units: 3

Course Typically Offered: Spring

MCJ 136 - Media Projects

Prerequisite: MCJ 4 and MCJ 112, MCJ 113 or MCJ 115, or permission of instructor
This advanced production course will provide laboratory experiences in the design and execution of large-scale semester-long media projects that may be audio, video, film or multi-camera focused. Projects are intended for public distribution and professional portfolio building.

Units: 1-3 **Repeatable** for a maximum of 6 units.

Course Typically Offered: Fall

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 - Media Sales

Media 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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Units: 3 **Repeatable** for a maximum of 6 units.

Course Typically Offered: Fall, Spring

MCJ 144 - Writing to Influence

Prerequisite: MCJ 2 and MCJ 40
Learn writing skills and strategies that are designed to persuade. Stresses the importance of strategic writing for specific media. Particular emphasis is placed on best practices.

Units: 3

Course Typically Offered: Spring

MCJ 146 - Media Planning

Prerequisite: MCJ 40
Media planning and buying, 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 147S - Digital and Social Media

This course covers the history, strategies and practices of digital and social media as they relate to the public relations and advertising industries. Service-learning component provides experiential learning opportunities.

Units: 3

Course Typically Offered: Fall, Spring

MCJ 148 - Advertising Campaigns

Prerequisite: 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.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Units: 3

Course Typically Offered: Fall, Spring

MCJ 149 - Advertising and Public Relations Campaigns

Prerequisite: MCJ 2, MCJ 40, MCJ 158W or MCJ 144

Student teams plan a public relations and advertising campaign. Covers use of research findings, setting measurable objectives, identifying key publics, defining strategies, setting budgets, and evaluating results. Course includes analyses of real-world campaigns used to solve public relations problems.

Units: 3

Course Typically Offered: Fall, Spring

MCJ 150 - Strategic Political Campaigns

This course covers the history and structure of American political campaigns. Particular emphasis is placed on how advertising and public relations practices are integrated into the campaigning process.

Units: 3

Course Typically Offered: Fall, Spring

MCJ 152S - Fundamentals of Public Relations

Fundamentals of the public relations field, its principles, ethical values, and methods; as well as its application in business, non-profit, education, and other areas. No previous courses or qualifying exams are required.

Units: 3

Course Typically Offered: Fall, Spring

MCJ 155SW - Nonprofit Public Relations and Development Writing

Prerequisite: GE Foundation A2 with a C grade or better.

This course is for anyone interested in nonprofits and nonprofit messages that engage volunteers, donors, and other supporters. You will put your knowledge into action by working with community partners, creating deliverables including sponsorship materials, media collateral, and competitive grant proposals. S sections include a service-learning requirement. Meets upper-division writing skills graduation requirement.

Units: 3

Course Typically Offered: Fall

MCJ 157 - Public Relations and Advertising Agency

Prerequisite: MCJ 40

This course will provide students with an in-depth and hands-on exploration into the creation of public relations and advertising products for "real world" clients and the management of a public relations and advertising agency.

Units: 3 **Repeatable** for a maximum of 6 units.

Course Typically Offered: Fall

MCJ 158W - Advanced Writing to Influence

Prerequisite: MCJ 144 and GE Foundation A2 with a C grade or better.

Writing and creating advanced-level messages and campaigns tailored to multiple audiences via a wide range of traditional and social media within specialized areas of advertising and public relations. Includes real-world writing for Service-Learning clients. Meets upper-division writing skills graduation requirement.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Units: 3

Course Typically Offered:

MCJ 159S - Public Relations Cases and Campaigns

Prerequisite: MCJ 2, MCJ 152S, and MCJ 158W

Public relations teams plan public relations campaigns for service-learning clients. Covers use of research, setting measurable objectives, identifying key publics, defining strategies, setting budgets, and evaluating results. Analyses and application of recent cases to solve public relations problems.

Units: 3

Course Typically Offered: Spring

MCJ 163 - Media and Pop Culture

A critical analysis of media as popular culture through the study of media literacy.

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 171 - Media Law and Ethics

Study of federal and state laws as well as professional ethics codes and ethical issues in the media and communications industries.

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 - Stereotypes and Representation in Media

GE Area/Graduation Requirement: GE Integration ID

Prerequisite: GE Foundation, Breadth D and PLSI 2

Examines relationships between media and social constructions, including analyses of contemporary and historical portrayals of gender, sexuality, race, ethnicity, economic class, and physical conditions. Explores strategies for recognizing cultural ramifications of reinforced stereotypes such as audience interpretations, media literacy, and advocacy.

Units: 3

Course Typically Offered: Fall, Spring

MCJ 176 - International Mass Communication

GE Area/Graduation Requirement: Multicultural/International

Prerequisite: GE Foundation and Breadth D
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.

Units: 3

Course Typically Offered: Fall, Spring

MCJ 177T - Media Topics

Prerequisite: junior/senior standing
Topics explore various aspects of the relationships between media and society in national and international arenas.

Units: 3 **Repeatable** for a maximum, of 6 units.

MCJ 178 - New Media Technologies

GE Area/Graduation Requirement: GE Integration ID

Prerequisite: GE Foundation, Breadth D and PLSI 2

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.

Units: 3

Course Typically Offered:

MCJ 179 - Cineculture

GE Area/Graduation Requirement: Multicultural/International

Prerequisite: GE Foundation and Breadth D
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.

Units: 3

Course Typically Offered: Fall, Spring

MCJ 180 - Water and Strategic Media

GE Area/Graduation Requirement: GE Integration ID

Prerequisite: GE Foundation, Breadth D and PLSI 2
Explores strategies of how we "communicate water" in strategic public dialogue, including writing techniques, media platforms, and multimedia campaigns that talk about water in

California and the world. Includes critical and cultural media studies, risk communication, and best practices.

Units: 3

Course Typically Offered: Fall

MCJ 183 - Documentary Media and Society

GE Area/Graduation Requirement: GE Integration IC

Prerequisite: GE Foundation and Breadth C
This course explores the history and aesthetics of the documentary form through the lens of society, politics, and culture. Focus is spent on the relationships between representational techniques and truthfulness.

Units: 3

MCJ 190 - Independent Study

See Academic Placement -- Independent Study.
Approved for RP grading.

Units: 1-3 **Repeatable** for a maximum of 6 units.

Course Typically Offered: Fall, Spring

MCJ 191I - Internship

Prerequisite: permission of instructor
Applied practical experience in an appropriate media outlet, recording studio, production company, advertising agency, public relations firm, or other media-related firm with on-the-job and faculty supervision/instruction.

Units: 1-3 **Repeatable** for a maximum of 6 units.

Course Typically Offered: Fall, Spring

MCJ 199 - Capstone

Prerequisite: senior standing and permission of instructor

Preparation and presentation of a satisfactory senior capstone project. The course also includes the organization and creation of a professional portfolio.

Weekly Lecture Hours: 1

Weekly Lab/Activity Hours: 9

Units: 4 **Repeatable** for a maximum of 8 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.

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.

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.

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.

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.

Units: 3 **Repeatable** for a maximum of 9 units.

MCJ 290 - Independent Study

See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3 **Repeatable** for a maximum of 6 units.

MCJ 298 - Project

Prerequisite: 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.

Units: 6

MCJ 298C - Project Continuation

Prerequisite: 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.

Units: 6

MCJ 299C - Thesis Continuation

Prerequisite: MCJ 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

Mechanical Engineering

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

Prerequisite or Corequisite: MATH 75

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).

Weekly Lab/Activity Hours: 3

Units: 1

Course Typically Offered: Fall, Spring

ME 26 - Engineering Graphics

Prerequisite or Corequisite: MATH 75

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.

Weekly Lab/Activity Hours: 6

Units: 3

Course Typically Offered:

ME 29 - Engineering Mechanics

Prerequisite: PHYS 4A

Prerequisite or Corequisite: MATH 77

(ME 29 same as CE 29) Study of fundamental principles of statics and dynamics by scalar and vector methods. Not open to mechanical or civil engineering majors.

Units: 3

Course Typically Offered: Fall, Spring

ME 31 - Engineering Materials

Prerequisite: CHEM 1A with a C grade or better

Prerequisite or Corequisite: MATH 75 with a C grade or better

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 or Corequisite: ME 31 and MATH 75

Application of experimental methods to engineering materials. Study of stress and strain in metals; fatigue; hardness; toughness.

Weekly Lab/Activity Hours: 3

Units: 1

Course Typically Offered: Fall, Spring

ME 95 - Product Development

Prerequisite: ME 26 and ME 31

Prerequisite or Corequisite: ME 2, ME 32, and MATH 75

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.

Weekly Lecture Hours: 1

Weekly Lab/Activity Hours: 3

Units: 2

Course Typically Offered:

ME 112 - Engineering Mechanics: Dynamics

Prerequisite: CE 20; MATH 81 or ENGR 101

Development of principles of kinematics and kinetics in engineering. Introduction to vibration.

Units: 3

Course Typically Offered:

ME 115 - Instrumentation and Measurement Lab

Prerequisite: ECE 71 or CSCI 40; ECE 90, and ECE 90L

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.

Weekly Lab/Activity Hours: 3

Units: 1

Course Typically Offered: Fall, Spring

ME 116 - Fluid Mechanics

Prerequisite: CE 20 and MATH 81 or ENGR 101

Prerequisite or Corequisite: ME 112

(ME 116 same as ENGR 116) Fundamentals of fluid mechanics as applied to engineering problems.

Units: 3

Course Typically Offered:

ME 118 - Fluid Mechanics Laboratory

Prerequisite: UDWR

Prerequisite or Corequisite: ME 116

Applications of experimental methods used in engineering practice to fluid systems.

Weekly Lab/Activity Hours: 3

Units: 1

Course Typically Offered: Fall, Spring

ME 122 - Dynamic Systems and Controls

Prerequisite: 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.

Units: 3

Course Typically Offered: Fall

ME 125 - Engineering Statistics and Experimentation

Prerequisite or Corequisite: MATH 77

Provides fundamentals of statistical and uncertainty 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 uncertainty in experimental measurements.

Units: 3

Course Typically Offered:

ME 134 - Kinematics of Machinery

Prerequisite: ME 26, ME 112, CE 121, and 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. GE Arrear design, different types of GE Arrears, GE Arrear trains. Students will be assigned class projects related to the topics covered in class.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 3

Units: 3

Course Typically Offered:

ME 135 - Senior Capstone Design I

Prerequisite: senior standing, UDWR, ME 95, and ME 115

Prerequisite or Corequisite: ME 134, ME 145, ME 154, and ME 156

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:

ME 136 - Thermodynamics

Prerequisite: CHEM 1A, PHYS 4A, MATH 77
Fundamentals of thermodynamics and heat transfer as applied to engineering problems.

Units: 3

Course Typically Offered:

ME 137 - Turbomachinery

Prerequisite: 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

Prerequisite: CE 121 and ECE 71 or CSCI 40,
Prerequisite or Corequisite: ME 112, ME 116

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

Prerequisite: ME 112
Mathematical and physical basis of vibration 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

Prerequisite: CE 121, ME 125, MATH 81
Advanced topics in mechanics of materials. Statistical considerations in design, stress and strain theories; contact stresses, strain energy, Castiglano'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

Prerequisite: ME 116 and ME 136
Prerequisite or Corequisite: ME 140

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:

ME 146 - Air Conditioning

Prerequisite: ME 116, ME 156
Theory and practice in air conditioning including psychrometrics, load estimating, heating and cooling systems, fluid design and controls.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Units: 3

Course Typically Offered: Spring

ME 154 - Design of Machine Elements

Prerequisite: 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.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 3

Units: 3

Course Typically Offered:

ME 155 - Senior Capstone Design II

Prerequisite: ME 135 and UDWR
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:

ME 156 - Advanced Thermodynamics

Prerequisite: ME 136
Advanced topics in thermodynamics including analysis of conventional and alternative energy conversion processes.

Units: 3

Course Typically Offered:

ME 159 - Mechanical Engineering Laboratory

Prerequisite: ME 118, ME 125, ME 145, and senior standing
Prerequisite or Corequisite: ME 156

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

Prerequisite: ME 2, ME 26, ME 140
Prerequisite or Corequisite: ME 145

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

Prerequisite: ME 135 and UDWR
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

Prerequisite: ME 145, ME 156, and ME 118
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

Prerequisite: senior standing in mechanical engineering, approved subject, department approved writing course
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** for a maximum of 6 units.

Course Typically Offered: Fall, Spring

ME 191T - Topics in Mechanical Engineering

Prerequisite: permission of instructor
Investigation of selected mechanical engineering subjects not in current courses.
lecture and/or laboratory

Units: 1-3 **Repeatable** for a maximum of 6 units.

ME 193I - Mechanical Engineering Cooperative Internship

Prerequisite: permission of advisor
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** for a maximum of 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 216 - Computational Fluid Dynamics

Prerequisite: ME 116 or permission of instructor
Basic MATLAB programming skills are required. Classification of partial differential equation (PDE). Finite difference/volume method. Basic concepts of discretization, consistency, and stability. Applications of numerical methods to selected model PDE. Explicit and implicit algorithms. Navier-Stokes

solutions and numerical methods for incompressible and compressible flows.

Units: 3

Course Typically Offered: Spring

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 Euler'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 and 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 collision cross sections. Flow with translational nonequilibrium. Radiative transfer in gases, and approximate solutions of the equation of radiative transfer.

Units: 3

ME 232 - Advanced Aircraft Stability and Control

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. Adair design, the human pilot in the 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
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** for a maximum of 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** for a maximum of 6 units.

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: 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

ME 299C - Thesis Continuation

Prerequisite: ME 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

Mechanized Agriculture

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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Course Fee: \$50

Units: 3

Course Typically Offered:

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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Additional Activity: field trips
Units: 3

Course Typically Offered: Fall, Spring

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.

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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Units: 3

Course Typically Offered: Fall, 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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Course Fee: \$70

Units: 3

Course Typically Offered:

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, magnetism, circuit applications, electrical measuring, and test equipment. Schematics and wiring diagrams, standards, and codes.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Course Fee: \$5

Units: 3

Course Typically Offered:

MEAG 103 - Electro-Hydraulics

Prerequisite: 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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Units: 3

Course Typically Offered: Spring

MEAG 113 - Power Transmissions

Prerequisite: MEAG 3
Theory and operation of electro-hydraulic assist transmissions, synchronized transmissions; GE Axle transmissions; clutches; brakes; final drives, selecting devices, mechanical front wheel drives, four wheel drive, and rubber/steel track drives.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Course Fee: \$10

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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Units: 3

Course Typically Offered: Fall

Middle East Studies

MES 10 - Introduction to Modern Middle East

GE Area/Graduation Requirement: GE Breadth D2

Prerequisite: GE Foundation A2 for students in English college -readiness Category III and IV
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

MES 100T - Special Topics in Middle East Studies

Selected topics exploring social, cultural, artistic, historical, political, or other areas of study related to the Middle East.

Units: 3 **Repeatable** for a maximum of 9 units.

Management

ENTR 170E - Entrepreneurship Mentor Program I

Prerequisite: permission of instructor
The development of professional networks and mentoring relationships are critical for professional success, especially here in the Central Valley. This two-course, two-semester program takes a mentorship approach to promote the entrepreneurial mindset by introducing students to successful members of the community who provide mentorship and develop relationships that help the mentees understand and integrate into the business community of the Greater Fresno Area. (Formerly ENTR 189T)

Units: 2

ENTR 171E - Entrepreneurship Mentor Program II

Prerequisite: ENTR 170E and permission of instructor
The development of professional networks and mentoring relationships are critical for professional success, especially here in the Central Valley. This two-course, two-semester program takes a mentorship approach to

promote the entrepreneurial mindset by introducing students to successful members of the community who provide mentorship and develop relationships that help the mentees understand and integrate into the business community of the Greater Fresno Area. (Formerly ENTR 189T)

Units: 2

MGT 104 - Administrative Principles of Management

Prerequisite: Not open to CSB Business Administration students, or those with credit in MGT 110
Prerequisite or Corequisite: BA 105W or ENGL 160W

Explores the human and interpersonal aspects of management and administration - motivation, leadership, conflict, communication, and organizational design and change. Employs various teaching methods including case analysis, written projects, small group exercises.

Units: 3

Course Typically Offered:

MGT 110 - Administration and Organizational Behavior

Prerequisite or Corequisite: BA 105W or ENGL 160W

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.

Weekly Lecture Hours: 3
Weekly Lab/Activity Hours: 6
Units: 6

Course Typically Offered: Fall, Spring

MGT 124 - Production/Operations Management

Prerequisite: BA 105W or ENGL 160W and MGT 110
Prerequisite or Corequisite: DS 123

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 124L - Production Operations Lab

Corequisite: MGT 124
Extends instruction in MGT 124, providing additional instructional support each week. Review- and practice-based instruction focused on material from the most recent lecture/seminar sessions is provided to supplement the MGT 124 curriculum. CR/NC grading only. (Does not apply to major) (Formerly MGT 189T)

Units: 1

Course Typically Offered: Fall, Spring

MGT 127 - Contemporary Leadership

Prerequisite: MGT 104 or MGT 110
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

Prerequisite: 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 Responsible, Sustainable Organizations

Prerequisite: MGT 104 or MGT 110
Corequisite:

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

(MGT 158 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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Units: 3

Course Typically Offered:

MGT 180 - Seminar in Management Theory and Organization Design

Prerequisite: MGT 110
Prerequisite or Corequisite: BA 105W or ENGL 160W

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

Prerequisite: MGT 110
Prerequisite or Corequisite: BA 105W or ENGL 160W

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

Prerequisite: last-semester senior, completion of CSB core requirements, and BA 105W or ENGL 160W

Prerequisite or Corequisite: MGT 124

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** for a maximum of 9 units.

MGT 190 - Independent Study

See Academic Placement -- Independent Study. Approved for RP grading.

Units: 1-3 **Repeatable** for a maximum of 6 units..

Course Typically Offered: Fall, Spring

MGT 195I - 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** for a maximum of 6 units.

Course Typically Offered: Fall, Spring

Marketing

MKTG 100 - Marketing Concepts

Prerequisite: 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

GE Area/Graduation Requirement:
Multicultural/International

Prerequisite: 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.

Units: 4

Course Typically Offered: Fall, Spring

MKTG 101 - Marketing Research

Prerequisite: MKTG 100S with a C grade or better; recommended early in the Marketing Option
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: MKTG 100S with a C grade or better.
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: MKTG 100S with a C grade or better.

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: MKTG 100S with a C grade or better.

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: MKTG 100S with a C grade or better.

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: MKTG 100S with a C grade or better.

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: MKTG 100S with a C grade or better.

The focus is on promotion as a communications process and the integration 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: MKTG 100S with a grade or better; BA 174 is required for International Business Option majors 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

Prerequisite: MKTG 100S with a C grade or better.

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: MKTG 100S with a C grade or better.

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

Prerequisite: MKTG 100S with a C grade or better.

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: MKTG 100S with a C grade or better.

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.

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

Prerequisite: senior standing
Prerequisite or Corequisite: MKTG 101 and MGT 124

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 at Fresno State.

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** for a maximum of 6 units.

MKTG 190 - Independent Study

See Academic Placement --Independent Study. Approved for RP grading.

Units: 1-3 **Repeatable** for a maximum of 6 units.

Course Typically Offered: Fall, Spring

MKTG 195I - 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 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.

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 theories of complex organizations includes the following: Leadership styles; communication; organizational change; hierarchy 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

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

Prerequisite: MPA 200, MPA 201, MPA 210, and 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** for a maximum of 6 units.

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 course prerequisites
Selected topics in the administration of public programs and agencies examined from the prospective and experience of practitioners.

Units: 1-3 **Repeatable** for a maximum of 6 units.

MPA 290 - Independent Study

See Academic Placement --Independent Study.
Approved for RP grading.

Units: 1-4 **Repeatable** for a maximum of 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

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 1 - Introduction to the U.S. Army and Critical Thinking

Cadets will learn how the personal development of life skills such as cultural understanding, goal setting, time management, stress management, and comprehensive fitness relate to leadership, officership, and the Army profession. The focus is on developing basic knowledge and comprehension of Army leadership dimensions, attributes and core leader competencies while gaining an understanding of the ROTC program, its purpose in the Army, and its advantages for the student.

Units: 1

Course Typically Offered: Fall

MS 2 - Introduction to the Profession of Arms

Cadets will learn how Army ethics and values shape the Army and the specific ways that these ethics are inculcated into Army culture. Cadets can expect to explore the seven Army Values, Warrior Ethos, explore the Profession of Arms, Army Leadership and critical communication skills.

Units: 1

Course Typically Offered: Fall, Spring

MS 11 - Leadership and Decision Making

Primarily is drawn from the Adaptability Army Learning Area (ALA). The outcomes are demonstrated through Critical and Creative Thinking and the ability to apply Troop Leading Procedures (TLP). Comprehension of the officer's role in Leading Change by applying Innovative Solutions to Problems in concert with the Principles of Mission Command. The Army Profession is also stressed through leadership forums and a leadership self-assessment.

Units: 2

Course Typically Offered: Fall

MS 12 - Army Doctrine and Team Development

Begins the journey to understand and demonstrate Cross-Cultural Competencies as they relate to Army doctrine and how they apply in a combatant commander's Engagement Strategies. Army Values, Teamwork, and Warrior Ethos and their relationship to the Law of Land Warfare and philosophy of military service are also stressed. The ability to lead and follow is also covered through Team Building exercises in small units up to squad level.

Units: 2

Course Typically Offered: Spring

MS 13 - Cadet Basic Camp (CBC)

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 year Army ROTC students and cadets. Expands classroom instruction in a weekly laboratory in order to conduct leader development and prepare students and cadets for upcoming training requirements and futures as an Officer in the United States Army. Attendance is a requirement for graduation and commission.

Units: 1 **Repeatable** for a maximum of 2 units.

Course Typically Offered: Fall, Spring

MS 50B - Sophomore Leadership Laboratory

Open to sophomore year Army ROTC students and cadets. Expands classroom instruction in a weekly laboratory in order to conduct leader development and prepare students and cadets for upcoming training requirements and futures as an Officer in the United States Army. Attendance is mandatory for contracted cadets for completion of sophomore year Army ROTC cadet requirements and for graduation and

commission requirements.

Units: 1 **Repeatable** for a maximum of 2 units.

Course Typically Offered: Fall, Spring

MS 131 - Training Management and the Warfighting Functions

Challenges cadets to study, practice, and apply the fundamentals of Army Leadership, Officership, Army Values and Ethics, Personal Development, and small unit tactics at the platoon level. Cadets receive systematic and specific feedback on their leadership attributes values, and core leader competencies from instructor, other ROTC cadre, and MSL IV Cadets using the Cadet Officer Evaluation System (OES).

Units: 3

Course Typically Offered: Fall

MS 132 - Applied Leadership in Small Unit Operations

Builds on the lessons learned and leadership attributes gained and developed during MSL301. This is an academically challenging course where Cadets will study, practice, and apply the fundamentals of Army Leadership, Officership, Army Values and Ethics, Personal Development, and small unit tactics at the platoon level. At the conclusion of this course, Cadets will be capable of planning, coordinating, navigating, motivating and leading a squad and platoon in the execution of a mission during a classroom PE, a Leadership Lab, or during a Leader Training Exercise (LTX).

Units: 3

Course Typically Offered: Spring

MS 133 - Cadet Advanced Camp (CAC)

Prerequisite: permission of instructor
A four-week summer camp conducted at Fort Knox, KY. 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 - The Army Officer

Develops cadet proficiency in planning, executing and assessing complex operations, functioning as a member of a staff, and providing performance feedback to subordinates. Cadets assess risk, make ethical decisions, and lead fellow Army ROTC cadets. They identify responsibilities of key staff, coordinate staff roles, and use situational opportunities to teach, train and develop subordinates.

Units: 3

Course Typically Offered: Fall

MS 142 - Company Grade Leadership

Explores the dynamics of leading in the complex situations of current military operations in today's operational environment. Cadets examine differences in customs and courtesies, military law, principles of war and rules of engagement in the face of international terrorism. They also explore aspects of interacting with nongovernmental organizations, civilians on the battlefield and host nation support. The course places significant emphasis on preparing cadets for their first unit of assignment.

Units: 3

Course Typically Offered: Spring

MS 150A - Junior Leadership Laboratory

Open to junior year Army ROTC students and cadets. Expands classroom instruction in a weekly laboratory in order to conduct leader development and prepare students and cadets for upcoming training requirements and futures as an Officer in the United States Army. Attendance is mandatory for completion of junior year Army ROTC cadet requirements and for graduation and commission requirements.

Units: 1 **Repeatable** for a maximum of 2 units.

Course Typically Offered: Fall, Spring

MS 150B - Senior Leadership Laboratory

Open to senior year Army ROTC cadets. Expands classroom instruction in a weekly laboratory in order to conduct leader development and prepare cadets for upcoming training requirements and futures as an Officer in the United States Army. Attendance is a requirement for graduation and commission for all contracted cadets.

Units: 1 **Repeatable** for a maximum of 2 units.

Course Typically Offered: Fall, Spring

MS 190 - Independent Study

See Academic Placement -- Independent Study.
Approved for RP grading.

Units: 1-3

Course Typically Offered: Fall, Spring

MS 192 - Military History

Prerequisite: 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 U.S. Army Military History Course Instructor.

Units: 3

Course Typically Offered: Fall, Spring

Master of Science in Accountancy

MSA 220 - Advanced Cost/Managerial Accounting

Coverage of advanced and emerging topics in cost/managerial accounting, including accounting for quality, performance evaluation, transfer pricing, advanced variance analysis, Just-in-Time, Backflush costing, cost accounting history, capital budgeting, and the measurement of the cost of capacity.

Units: 4

MSA 222 - Advanced Financial Accounting

Coverage of advanced financial accounting topics with an in-depth study of principles, procedures, and reporting requirements of consolidated financial accounting and partnerships.

Units: 4

Course Typically Offered: Spring

MSA 224 - Professional & Legal Responsibilities

Advanced coverage of legal concepts and topics relevant to professional accountants, including agency, contracts, debtor-creditor relationships, government regulation of business, uniform

commercial code, and real property.

Units: 4

MSA 226 - Professional Research & Accountancy Theory

Coverage of accounting theory and the components of authoritative sources for tax, accounting, and audit rules and regulations; examination of a variety of issues and topics focusing on the authoritative sources to determine and apply relevant codes, rules and regulations.

Units: 4

MSA 290 - Independent Study

Prerequisite: permission of director and instructor
Approved for RP grading.

Units: 1-4

Music

MUSIC 1A - Ear Training and Sight Singing I

Singing, recognition, and dictation of intervals, triads, and melodies. Principles of tuning. Harmonic dictation using root position triads. Pitch considerations in global systems.

Course Fee: \$15

Units: 1

Course Typically Offered:

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. Time considerations in global systems.

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. Further considerations in global systems.

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 featuring irregular beat divisions, polyrhythms. Harmonic dictation using extended dominants, chromatic triads, extended tertian chords; recognition of patterns in foreign keys. Further considerations in global systems.

Units: 1

MUSIC 4A - Piano Class I

Prerequisite: 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

MUSIC 4B - Piano Class II

Prerequisite: MUSIC 4A
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

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

Units: 2

Course Typically Offered: Fall, Spring

MUSIC 4D - Class Piano IV

Prerequisite: Music Education Option majors only, passed Piano Proficiency Exam, MUSIC 1C and MUSIC 42
Playing, transposing, and improvising harmonies for Elementary Music song repertoire. Analyzing, sight reading, transposing, and accompanying for Secondary Music repertoire.

Units: 2

Course Typically Offered:

MUSIC 9 - Introduction to Music

GE Area/Graduation Requirement: GE Breadth C1

Not open to 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. Introduction to global music systems MUSIC 9 and MUSIC 9A cannot both be taken for credit.

Units: 3

Course Typically Offered: Fall, Spring

MUSIC 9A - Introduction to Music

GE Area/Graduation Requirement: GE Breadth C1

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. Introduction to global music systems.

Course Fee: \$20

Units: 3

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."

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:

MUSIC 30CF - Composition Forum

Corequisite: MUSIC 48 or MUSIC 148
Weekly group meetings for music composition studies. Reading and review of works in progress in front of applied faculty and peers, with peer feedback. Study of technical, stylistic, and aesthetic elements of contemporary music.

Units: 0

Course Typically Offered:

MUSIC 30JF - Jazz Forum

Corequisite: jazz (J) lessons
Weekly group meetings for jazz studies students. Performances, master classes, and clinics with faculty, peers, and guest artists, with peer feedback. Study of technical, stylistic, and aesthetic elements of jazz.

Units: 0

Course Typically Offered: Fall, Spring

MUSIC 30MC - Master Class

Prerequisite: concurrent enrollment in instrument/voice studio lessons
Weekly group meetings for instrumental/voice studies. Performance of literature in front of applied faculty and peers, with peer feedback. Technical, stylistic, and aesthetic elements of performing music repertory.

Units: 0

Course Typically Offered: Fall, Spring

MUSIC 31 - Euphonium

Course Fee: \$20

Units: 1 **Repeatable** for a maximum of 16 units.

MUSIC 31 - Horn

Course Fee: \$20

Units: 1 **Repeatable** for a maximum of 16 units.

MUSIC 31 - Trombone

Course Fee: \$20

Units: 1 **Repeatable** for a maximum of 16 units.

MUSIC 31 - Trumpet

Course Fee: \$20

Units: 1 **Repeatable** for a maximum of 16 units.

MUSIC 31 - Tuba

Course Fee: \$20

Units: 1 **Repeatable** for a maximum of 16 units.

MUSIC 31E - Brass

Prerequisite: enrollment in Music Education option
Applied study of instrument or voice for lower division students in the Bachelor of Music, Education option. One-on-one music lessons

with faculty.

Units: 1

Course Typically Offered: Fall, Spring

MUSIC 31J - Brass

Prerequisite: open only to Music - Jazz Studies option majors
Applied study of instrument or voice for lower division students in the Jazz Studies Option. One-on-one music lessons with faculty.

Units: 1

Course Typically Offered: Fall, Spring

MUSIC 31P - Brass

Prerequisite: Instrumental Performance Option or Vocal Performance Option majors only
Applied study of instrument or voice for lower division students in the Instrumental or Vocal Performance option. One-on-one music lessons with faculty.

Units: 1

Course Typically Offered:

MUSIC 32 - Instrumental, Vocal, & Composition Lessons

Corequisite: concurrent enrollment in appropriate major ensemble required Passing Jury II required to enroll in MUSIC 131 through MUSIC 139
Music 31 and MUSIC 131 through MUSIC 39 and MUSIC 139 and MUSIC 131J through MUSIC 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. Students admitted to the jazz option must complete 4 units of Music 31 through MUSIC 38 and pass Jury I to enroll in MUSIC 131J through MUSIC 135J. MUSIC 148 includes individual instruction in original composition in a variety of media, forms, and styles. All courses are repeatable for credit.

Course Fee: All courses require \$20

Units: 1 **Repeatable** for a maximum of 16 units.

MUSIC 32E - Percussion

Prerequisite: enrollment in Music Education
Applied study of instrument or voice for lower

division students in the Bachelor of Music, Music Education option. One-on-one music lessons with faculty.

Units: 1

Course Typically Offered: Fall, Spring

MUSIC 32J - Percussion

Prerequisite: enrollment in Jazz Studies
Applied study of instrument or voice for lower division students in the Jazz Studies option.
One-on-one music lessons with faculty.

Units: 1

Course Typically Offered: Fall, Spring

MUSIC 32P - Percussion

Prerequisite: Instrumental Performance Option or Vocal Performance Option majors only
Applied study of instrument or voice for lower division students in the Instrumental or Vocal Performance option. One-on-one music lessons with faculty.

Units: 1

Course Typically Offered: Fall, Spring

MUSIC 33 - Contrabass

Course Fee: \$20

Units: 1 **Repeatable** for a maximum of 16 units.

MUSIC 33 - Guitar

Course Fee: \$20

Units: 1 **Repeatable** for a maximum of 16 units.

MUSIC 33 - Harp

Units: 1 **Repeatable** for a maximum of 16 units.

Course Typically Offered: Fall, Spring

MUSIC 33 - Viola

Course Fee: \$20

Units: 1 **Repeatable** for a maximum of 16 units.

MUSIC 33 - Violin

Course Fee: \$20

Units: 1 **Repeatable** for a maximum of 16 units.

MUSIC 33 - Violoncello

Course Fee: \$20

Units: 1 **Repeatable** for a maximum of 16 units.

MUSIC 33E - Strings

Prerequisite: enrollment in Music Education
Applied study of instrument or voice for lower division students in the Bachelor of Music, Music Education option. One-on-one music lessons with faculty.

Units: 1

Course Typically Offered: Fall, Spring

MUSIC 33J - Strings

Prerequisite: Jazz Studies option majors only
Applied study of instrument or voice for lower division students in the Jazz Studies option.
One-on-one music lessons with faculty.

Units: 1

Course Typically Offered: Fall, Spring

MUSIC 33P - Strings

Prerequisite: Instrumental Performance option or Vocal Performance option majors only
Applied study of instrument or voice for lower division students in the Instrumental or Vocal Performance option. One-on-one music lessons with faculty.

Units: 1

Course Typically Offered: Fall, Spring

MUSIC 34 - Instrumental, Vocal, & Composition Lessons

Corequisite: concurrent enrollment in appropriate major ensemble required
Passing Jury II required to enroll in MUSIC 131 through MUSIC 139
MUSIC 31 and MUSIC 131 through MUSIC 39 and MUSIC 139 and MUSIC 131J through MUSIC 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. Students admitted to the jazz option must complete 4 units of Music 31 through MUSIC 38 and pass Jury I to enroll in MUSIC 131J through MUSIC 135J. MUSIC 148 includes individual instruction in original composition in a variety of media, forms, and styles. All courses are repeatable for credit.

Course Fee: All courses require \$20

Units: 1 **Repeatable** for a maximum of 16 units.

MUSIC 34E - Piano

Prerequisite: Music Education option major only
Applied study of instrument or voice for lower division students in the Bachelor of Music, Music Education option. One-on-one music lessons with faculty.

Units: 1

Course Typically Offered: Fall, Spring

MUSIC 34J - Piano

Prerequisite: Jazz Studies option major
Applied study of instrument or voice for lower division students in the Jazz Studies option.
One-on-one music lessons with faculty.

Units: 1

Course Typically Offered: Fall, Spring

MUSIC 34P - Piano

Prerequisite: Instrumental Performance Option or Vocal Performance Option majors only
Applied study of instrument or voice for lower division students in the Instrumental or Vocal Performance option. One-on-one music lessons with faculty.

Units: 1

Course Typically Offered: Fall, Spring

MUSIC 35 - Bassoon

Course Fee: \$20

Units: 1 **Repeatable** for a maximum of 16 units.

MUSIC 35 - Clarinet

Course Fee: \$20

Units: 1 **Repeatable** for a maximum of 16 units.

MUSIC 35 - Flute

Course Fee: \$20

Units: 1 **Repeatable** for a maximum of 16 units.

MUSIC 35 - Oboe

Course Fee: \$20

Units: 1 **Repeatable** for a maximum of 16 units.

MUSIC 35 - Saxophone

Course Fee: \$20

Units: 1 **Repeatable** for a maximum of 16 units.

MUSIC 35E - Woodwinds

Prerequisite: Music Education Option majors only, Passed Piano Proficiency Exam, Applied study of instrument or voice for lower division students in the Bachelor of Music, Music Education option. One-on-one music lessons with faculty.

Units: 1

Course Typically Offered: Fall, Spring

MUSIC 35J - Woodwinds

Prerequisite: Jazz Studies option majors only Applied study of instrument or voice for lower division students in the Jazz Studies option. One-on-one music lessons with faculty.

Units: 1

Course Typically Offered: Fall, Spring

MUSIC 35P - Woodwinds

Prerequisite: Instrumental Performance option or Vocal Performance option majors only Applied study of instrument or voice for lower division students in the Instrumental or Vocal Performance option. One-on-one music lessons with faculty.

Units: 1

Course Typically Offered: Fall, Spring

MUSIC 37E - Harp

Prerequisite: Music Education option majors only Applied study of instrument or voice for lower division students in the Bachelor of Music, Music Education Option. One-on-one music lessons with faculty.

Units: 1

Course Typically Offered: Fall, Spring

MUSIC 37P - Harp

Prerequisite: Instrumental Performance option or Vocal Performance option majors only Applied study of instrument or voice for lower division students in the Instrumental Performance Option or Vocal Performance Option. One-on-one music lessons with faculty.

Units: 1

Course Typically Offered: Fall, Spring

MUSIC 38 - Instrumental, Vocal, & Composition Lessons

Corequisite: concurrent enrollment in appropriate major ensemble required Passing Jury II required to enroll in MUSIC 131 through MUSIC 139 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. 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 MUSIC 135J. MUSIC 148 includes individual instruction in original composition in a variety of media, forms, and styles. All courses are repeatable for credit.

Course Fee: All courses require \$20

Units: 1 **Repeatable** for a maximum of 16 units.

MUSIC 38E - Organ

Prerequisite: Music Education Option majors only, Applied study of instrument or voice for lower division students in the Bachelor of Music, Music Education option. One-on-one music lessons with faculty.

Units: 1

Course Typically Offered: Fall, Spring

MUSIC 38P - Organ

Prerequisite: Instrumental Performance option or Vocal Performance option majors only Applied study of instrument or voice for lower division students in the Instrumental Performance Option or Vocal Performance Option. One-on-one music lessons with faculty.

Units: 1

Course Typically Offered:

MUSIC 39 - Instrumental, Vocal, & Composition Lessons

Corequisite: concurrent enrollment in appropriate major ensemble required Passing Jury II required to enroll in MUSIC 131 through MUSIC 139 Music 31 and 131 through 39 and MUSIC 139 and MUSIC 131J through MUSIC 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. Students admitted to the jazz option must complete 4 units of Music 31 through MUSIC 38 and pass Jury I to enroll in MUSIC 131J through MUSIC 135J. MUSIC 148 includes individual instruction in original composition in a variety of media, forms, and styles. All courses are repeatable for credit.

Course Fee: All courses require a \$20 course fee.

Units: 1 **Repeatable** for a maximum of 16 units.

MUSIC 39E - Voice

Prerequisite: Music Education Option majors only Applied study of instrument or voice for lower division students in the Bachelor of Music, Music Education option. One-on-one music lessons with faculty.

Units: 1 **Repeatable** for a maximum of 16 units.

Course Typically Offered: Fall, Spring

MUSIC 39J - Voice

Prerequisite: Jazz Studies option majors only Applied study of instrument or voice for lower division students in the Jazz Studies option. One-on-one music lessons with faculty.

Units: 1

Course Typically Offered: Fall, Spring

MUSIC 39P - Voice

Prerequisite: Instrumental Performance option or Vocal Performance option majors only
Applied study of instrument or voice for lower division students in the Instrumental Performance Option or Vocal Performance Option. One-on-one music lessons with faculty.

Units: 1

Course Typically Offered: Fall, Spring

MUSIC 40 - Theory and Literature I

Prerequisite: Pre-Music majors only
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:

MUSIC 41 - Theory and Literature II

Prerequisite: MUSIC 40
Figured bass and principles of voice leading, functional harmony, seventh chords, and secondary function chords. Harmonization of melodies. Principles of form in Western and global traditions. Analysis of representative musical literature.

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. Advanced musical forms, and study of representative musical examples in global and Western traditions.

Units: 3

Course Typically Offered:

MUSIC 43 - Theory and Literature IV

Prerequisite: MUSIC 42
Non-tonal harmony (e.g. quartal, pandiatonic). Basic set theory and twelve-tone technique. Jazz harmony and principles of improvisation. Global music applications. Survey of representative works of the twentieth and twenty-first centuries with respect to style and structure.

Units: 3

Course Typically Offered: Spring

MUSIC 45 - Music Recording Techniques

Prerequisite: MUSIC 47
The study of audio recording systems, components, and philosophies. Emphasis is on the day-to-day workings of a recording studio, with experience in signal flow, acoustics, microphone theory, and multi-track recording techniques. Further emphasis is placed on critical listening and objective critique in audio, music, and production. This course requires the use of a laptop computer and appropriate software.

Units: 3

MUSIC 46 - Live Sound Reinforcement

Prerequisite: MUSIC 47
Students gain hands-on experience mixing the sound for live or streaming performances. Students will log a minimum of 10+ service hours with music department recording staff.

Units: 3

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

Aural-analytic study of compositional concepts and genres in Western music; introduction to

concepts in global music; exercises in creative writing; and music notation.

Units: 2 **Repeatable** for a maximum of 6 units.

Course Typically Offered: Fall, Spring

MUSIC 49 - Instrumentation and Notation

Study of idiomatic music writing for standard woodwind, brass, keyboard, percussion, and string instruments. Practice and study of music notation, including both handwritten and computer notation. Notation of standard and extended techniques for all common musical instruments.

Units: 3

Course Typically Offered: Spring

MUSIC 50 - Introduction to Music Teaching and Learning

Prerequisite: MUSIC 40
Orientation to role of music teacher in public schools. Observation of teacher-pupil interaction, instructional approaches, and classroom management in elementary through secondary schools. Two-hour lecture weekly, plus two-hour school site observation weekly, not including travel.

Units: 3

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

GE Area/Graduation Requirement: GE Breadth C1

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.

Units: 3

MUSIC 60T - Topics in Music

Special studies in ethnomusicology or music appreciation, business, education, history, literature, theory, or technology.

Units: 1-3 **Repeatable** for a maximum of 6 units.

MUSIC 64 - Jazz Theory and Improvisation I

Prerequisite: MUSIC 41
Corequisite: MUSIC 103JO or MUSIC 102JE
Jazz Improvisation, basic skills of theoretical foundation and creative improvisation in the jazz idiom.

Units: 3

Course Typically Offered: Fall

MUSIC 65 - Jazz Theory and Improvisation II

Prerequisite: Jazz Studies option majors only, MUSIC 64
Corequisite: MUSIC 103JO or MUSIC 102JE
Jazz Improvisation, intermediate skills of theoretical foundation and creative improvisation in the jazz idiom.

Units: 3

Course Typically Offered: Spring

MUSIC 74 - Listener's Guide to Music

GE Area/Graduation Requirement: GE Breadth C1

Exploration of a wide range of musical styles (past, present, classical, global, and popular) through guided practical experiences and the development of an aesthetic sensitivity for music of various cultures.

Units: 3

Course Typically Offered: Fall, Spring

MUSIC 75 - History of Rock and Roll

GE Area/Graduation Requirement: GE Breadth C1

The History of Rock and Roll and its musical precedents: The music, musical styles and musicians of Rock and Roll, as well as the most important global, cultural, sociological and philosophical factors that influenced and were influenced by Rock and Roll.

Units: 3

Course Typically Offered: Fall, Spring

MUSIC 102CS - Chamber Singers

Units: 1

MUSIC 102FE - Flute Ensemble

Units: 1

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.

Additional Activity: field trips

Units: 1 **Repeatable** for a maximum of 8 units.

MUSIC 102GE - Guitar Ensemble

Units: 1

MUSIC 102JE - Jazz Ensemble

Units: 1

MUSIC 102MA - Mariachi

This class is devoted to music selected from the traditional mariachi repertory. Typical genres will include bolero, ranchera, son huasteco, son jalisciense, and son jarocho. Students will become familiar with traditional performance practices and stylistic interpretation of these selected genres.

Units: 1

Course Typically Offered: Fall, Spring

MUSIC 102MC - Men's Chorus

Units: 1

MUSIC 102MW - Masterworks Chorus

Masterworks Chorus, a choral ensemble in the Department of Music, is organized around the study and performance of choral literature appropriate for a large choir. (Formerly MUSIC 102CC)

Units: 1

MUSIC 102NM - New Music Ensemble

New Music Ensemble is a minor chamber music ensemble devoted to the study and performance of non-conducted new music. The ensemble chiefly performs works by Fresno State student composers, but may also perform new music by other composers as well.

Units: 1

Course Typically Offered: Fall, Spring

MUSIC 102PB - Basketball Band

Units: 1

MUSIC 102PE - Perc Ensemble

Units: 1

MUSIC 102SE - String Ensemble

Units: 1

MUSIC 102US - University Singers

Study and performance of literature for university singers (US).

Units: 1

Course Typically Offered: Fall, Spring

MUSIC 102VJE - Vocal Jazz Ensemble

Vocal Jazz Ensemble is a minor ensemble in the Fresno State Music Department. The ensemble performs a wide variety of literature within the jazz genre.

Units: 1

Course Typically Offered: Fall, Spring

MUSIC 102WC - Women's Chorus

Units: 1

MUSIC 102WWE - WWD Ensemble

Units: 1

MUSIC 103CC - Concert Choir

Units: 1

MUSIC 103JO - Jazz Orchestra

Units: 1

MUSIC 103MB - Marching Band

Units: 1

MUSIC 103SB - Symphonic Band

Units: 1

MUSIC 103SO - Symphony Orchestra

Units: 1

MUSIC 103WO - Wind Orchestra

Units: 1

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.

Units: 1

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

Prerequisite: 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

Open to upper-division vocal performance majors only. 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:

MUSIC 117BB - Bulldog Beat

Units: 1

MUSIC 117BQ - Brass Quintet

Units: 1

MUSIC 117CM - Chamber Music

Units: 1

MUSIC 117JC - Jazz Combo

This course is a non-conducted ensemble that studies and performs small group jazz literature including original compositions and arrangements by students and commissions by professional ensembles. Two weekly rehearsals will focus on ensemble skills and other skills idiosyncratic to jazz performance. (repeatable for credit)

Units: 1

MUSIC 117KE - Keyboard Ens

Units: 1

MUSIC 117PQ - Pres Quintet

Units: 1

MUSIC 118BW - Band Wrkshp

Units: 1

MUSIC 118OPR - Opera Production

Units: 1

MUSIC 118OT - Opera Theatre

Units: 1

MUSIC 118PW - Percussion Wrksp

Units: 1

MUSIC 118VW - Vocal Wrksp

Units: 1

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

Units: 1

Course Typically Offered: Fall

MUSIC 120 - Class Piano Techniques and Materials

Prerequisite: 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

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

MUSIC 130T - Cho Cond RF Skls

Units: 1

MUSIC 130T - Kodaly: A Choral Component

Units: 1

MUSIC 130T - Topics in Performance

Special studies in vocal or instrumental music, including topics such as accompanying, electronic instruments, mixed chamber music and global music.

Units: 1 Repeatable for a maximum of 6 units.

MUSIC 131 - Euphonium

Course Fee: \$20

Units: 1

MUSIC 131 - Horn

Course Fee: \$20

Units: 1

MUSIC 131 - Trombone

Course Fee: \$20

Units: 1

MUSIC 131 - Trumpet

Course Fee: \$20

Units: 1

MUSIC 131 - Tuba

Course Fee: \$20

Units: 1

MUSIC 131J - Instrumental, Vocal, & Composition Lessons

Corequisite: enrollment in appropriate major ensemble required Passing Jury II required to enroll in MUSIC 131 through MUSIC 139 Music 31 and 131 through MUSIC 39 and

MUSIC 139 and 131J through MUSIC 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. Students admitted to the jazz option must complete 4 units of Music 31 through MUSIC 38 and pass Jury I to enroll in MUSIC 131J through MUSIC 135J. MUSIC 148 includes individual instruction in original composition in a variety of media, forms, and styles. All courses are repeatable for credit.

Course Fee: All courses require \$20

Units: 1 Repeatable for a maximum of 16 units.

MUSIC 132 - Instrumental, Vocal, & Composition Lessons

Corequisite: concurrent enrollment in appropriate major ensemble required Passing Jury II required to enroll in MUSIC 131 through MUSIC 139

Music 31 and 131 through MUSIC 39 and MUSIC 139 and MUSIC 131J through MUSIC 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. Students admitted to the jazz option must complete 4 units of Music 31 through MUSIC 38 and pass Jury I to enroll in MUSIC 131J through MUSIC 135J. MUSIC 148 includes individual instruction in original composition in a variety of media, forms, and styles. All courses are repeatable for credit.

Course Fee: All courses require \$20

Units: 1 Repeatable for a maximum of 16 units.

MUSIC 132J - Instrumental, Vocal, & Composition Lessons

Corequisite: enrollment in appropriate major ensemble required Passing Jury II required to enroll in MUSIC 131 through MUSIC-139 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. 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.

Course Fee: All courses require \$20

Units: 1 **Repeatable** for a maximum of 16 units.

MUSIC 133 - Contrabass

Course Fee: \$20

Units: 1

MUSIC 133 - Guitar

Course Fee: \$20

Units: 1

MUSIC 133 - Harp

Units: 1-2

Course Typically Offered: Fall, Spring

MUSIC 133 - Viola

Course Fee: \$20

Units: 1

MUSIC 133 - Violin

Course Fee: \$20

Units: 1

MUSIC 133 - Violoncello

Course Fee: \$20

Units: 1

MUSIC 133J - Instrumental, Vocal, & Composition Lessons

Corequisite: enrollment in appropriate major ensemble required Passing Jury II required to enroll in MUSIC 131 through MUSIC-139 Music 31 and 131 through MUSIC 39 and MUSIC 139 and MUSIC 131J through MUSIC 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. Students admitted to the jazz option must complete 4 units of Music 31 through MUSIC 38 and pass Jury I to enroll in MUSIC 131J through MUSIC 135J. MUSIC 148 includes individual instruction in original composition in a variety of media, forms, and styles. All courses are repeatable for credit.

Course Fee: All courses require \$20

Units: 1 **Repeatable** for a maximum of 16 units.

MUSIC 134 - Instrumental, Vocal, & Composition Lessons

Corequisite: concurrent enrollment in appropriate major ensemble required Passing Jury II required to enroll in MUSIC 131 through MUSIC 139

Music 31 and 131 through MUSIC 39 and MUSIC 139 and MUSIC 131J through MUSIC 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. Students admitted to the jazz option must complete 4 units of Music 31 through MUSIC 38 and pass Jury I to enroll in MUSIC 131J through MUSIC 135J. MUSIC 148 includes individual instruction in original composition in a variety of media, forms, and styles. All courses are repeatable for credit.

Course Fee: All courses require \$20

Units: 1 **Repeatable** for a maximum of 16 units.

MUSIC 134J - Instrumental, Vocal, & Composition Lessons

Corequisite: enrollment in appropriate major ensemble required Passing Jury II required to enroll in MUSIC 131 through MUSIC 139 Music 31 and 131 through MUSIC 39 and MUSIC 139 and MUSIC 131J through MUSIC 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. Students admitted to the jazz option must complete 4 units of Music 31 through MUSIC 38 and pass Jury I to enroll in MUSIC 131J through MUSIC 135J. MUSIC 148 includes individual instruction in original composition in a variety of media, forms, and

styles. All courses are repeatable for credit.

Course Fee: All courses require a \$20 course fee.

Units: 1

MUSIC 135 - Bassoon

Course Fee: \$20

Units: 1

MUSIC 135 - Clarinet

Course Fee: \$20

Units: 1

MUSIC 135 - Flute

Course Fee: \$20

Units: 1

MUSIC 135 - Oboe

Course Fee: \$20

Units: 1

MUSIC 135 - Saxophone

Course Fee: \$20

Units: 1

MUSIC 135J - Instrumental, Vocal, & Composition Lessons

Corequisite: enrollment in appropriate major ensemble required Passing Jury II required to enroll in MUSIC 131 through MUSIC 139 Music 31 and 131 through MUSIC 39 and MUSIC 139 and MUSIC 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. Students admitted to the jazz option must complete 4 units of Music 31 through MUSIC 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.

Course Fee: All courses require \$20

Units: 1 Repeatable for a maximum of 16 units.

MUSIC 138 - Instrumental, Vocal, & Composition Lessons

Corequisite: concurrent enrollment in appropriate major ensemble required Passing Jury II required to enroll in MUSIC 131 through MUSIC 139

Music 31 and 131 through MUSIC 39 and MUSIC 139 and MUSIC 131J through MUSIC 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. Students admitted to the jazz option must complete 4 units of Music 31 through MUSIC 38 and pass Jury I to enroll in MUSIC 131J through MUSIC 135J. MUSIC 148 includes individual instruction in original composition in a variety of media, forms, and styles. All courses are repeatable for credit.

Course Fee: All courses require \$20

Units: 1 Repeatable for a maximum of 16 units.

MUSIC 139 - Instrumental, Vocal, & Composition Lessons

Corequisite: concurrent enrollment in appropriate major ensemble required Passing Jury II required to enroll in MUSIC 131 through MUSIC 139

Music 31 and 131 through MUSIC 39 and 139 and MUSIC 131J through MUSIC 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. Students admitted to the jazz option must complete 4 units of Music 31 through MUSIC 38 and pass Jury I to enroll in MUSIC 131J through MUSIC 135J. MUSIC 148 includes individual instruction in original composition in a variety of media, forms, and styles. All courses are repeatable for credit.

Course Fee: All courses require \$20

Units: 1 Repeatable for a maximum of 16 units.

MUSIC 139J - Vocal Jazz

Prerequisite: Jazz Studies Option majors only, passed Jury II in Jazz Studies

Applied study of voice for upper division students in the Jazz Studies major. One-on-one music lessons with faculty.

Units: 1

Course Typically Offered: Fall, Spring

MUSIC 140T - Topics in Theory

Prerequisite: MUSIC 43
Analytical study of specific composers, genres, styles, and diverse approaches to music theory.

Units: 3 Repeatable for a maximum of 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 various methods of music analysis. Review of chromatic harmony as necessary.

Units: 3

Course Typically Offered: Fall

MUSIC 145 - Audio and Music for Visual Media

Prerequisite: MUSIC 47
A study of audio and music production and post-production for video. Topics of study include music scoring, automatic dialogue replacement, foley, synchronization, interactive music for video games, and audio systems in video. This course requires the use of a laptop computer and appropriate software.

Units: 3

MUSIC 146 - Composing for Media

Prerequisite: MUSIC 47
Study of the aesthetic considerations and practical techniques involved when composing music for films, television, and video games. This course requires the use of a laptop computer and appropriate software. It is usually expected that students will spend approximately 2 hours of study time outside of class for every one hour in class. Since this is a 3-unit class, you should expect to study an average of 6 hours outside of class each week.

Units: 3

MUSIC 147 - Digital Music Production

Prerequisite: MUSIC 9 and MUSIC 47; or permission 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 composition in a variety of media, forms, and styles.

Units: 1 Repeatable for a maximum of 10 units.

MUSIC 149 - Computer Music

Prerequisite: MUSIC 47
Creative projects in electronic media and computer music applications. Emphasis on digital techniques, including computer control of digital instruments, computer synthesis, and generative musical applications. This course requires the use of a laptop computer and appropriate software.

Units: 3

MUSIC 153 - Children's Music

Open to non-majors only. Introduction to song literature and singing games suitable for children in the elementary grades. Development of in-tune singing, literacy skills using basic music notation, instrument playing, and

activities that integrate music into the general education classroom. Course content derived from the folk music and musical contributions of world cultures.

Units: 3

Course Typically Offered:

MUSIC 154 - Music for the Elementary Classroom

Prerequisite: MUSIC 41, passed piano proficiency, and MUSIC 4D

Music Education Majors only. Introduction to place and functions of Pre-K-2nd grade school music curriculum; selection, discussion, and analysis of materials; planning activities that develop aesthetic sensitivity and musical skill in children.

Units: 3

MUSIC 155 - Advanced Elementary Classroom Techniques

Prerequisite: MUSIC 42, MUSIC 154, passed piano proficiency, MUSIC 4D
Music Education Majors Only. Continuation in the study of research, best teaching practices, and the place and functions of music in the upper elementary school, 3rd-5th grade, curriculum.

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** for a maximum of 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** for a maximum of 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:

MUSIC 160T - Topics in Music History and Literature

Study of selected musical genres, composers, and other specialized topics.

Units: 1-3 **Repeatable** for a maximum of 9 units.

MUSIC 160TZ - Monarchs: Market/Music 18th Century London

Units: 3 **Repeatable** for a maximum of 9 units.

MUSIC 161A - Survey of Western Art Music I

Prerequisite: MUSIC 41 and junior 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 up to approximately 1800 A.D.

Units: 3

Course Typically Offered:

MUSIC 161B - Survey of Western Art Music II

Prerequisite: MUSIC 41 and junior 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:

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

The history of Jazz through study of important innovators, performers, composers, and improvisers worldwide.

Units: 3

MUSIC 164 - Jazz Theory & Improvisation I

Prerequisite: MUSIC 43

Corequisite: MUSIC 103JO or MUSIC 102JE
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

Corequisite: MUSIC 103JO or MUSIC 102JE
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

Units: 2

MUSIC 167 - Keyboard Literature

Piano majors only. A historical survey of the standard repertoire for the piano.

Units: 2

MUSIC 168 - Advanced Jazz Improvisation and Analysis

Prerequisite: MUSIC 65, MUSIC 163, MUSIC 178, MUSIC 181B; Jazz Studies major
Corequisite: MUSIC 103JO or MUSIC 102JE
Provides advanced foundation in theory and improvisational styles within the jazz idiom.

Units: 3

Course Typically Offered: Fall

MUSIC 169 - Instrumental Techniques and Materials

Prerequisite: MUSIC 43, MUSIC 158A or MUSIC 158B, pass conducting proficiency, 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

Course Typically Offered: Spring

MUSIC 169L - Instrumental Lab Ensemble

Prerequisite: passed piano proficiency, MUSIC 4D, MUSIC 42, MUSIC 158A
Corequisite: MUSIC 169
Study of conducting and rehearsal techniques for the secondary instrumental setting.

Units: 1

Course Typically Offered: Spring

MUSIC 170A - Music of the Americas: Latin America

GE Area/Graduation Requirement: GE Integration IC

Prerequisite: GE Foundation and Breadth 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.

Units: 3

Course Typically Offered: Fall, Spring

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 repertoires and music interactions between elite and popular traditions.

Units: 3

Course Typically Offered: Spring

MUSIC 171 - Introduction to the World's Music

GE Area/Graduation Requirement: GE Integration IC

Prerequisite: GE Foundation and Breadth 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 contexts. Study of selected musical forms and their relationship to social formations.

Units: 3

Course Typically Offered: Fall, Spring

MUSIC 171A - Global Music Perspectives

GE Area/Graduation Requirement: Multicultural/International

Prerequisite: MUSIC 41, GE Foundation with a C grade or better, Breadth D, and sophomore-level status
Study of music from a global perspective. Relationships between musical sound, context, and meaning through ethnomusicology. Consideration of musical systems, performance practices, and aesthetic goals.

Units: 3

Course Typically Offered:

MUSIC 171Z - Introduction to the World's Music

GE Area/Graduation Requirement: GE Integration IC

Prerequisite: GE Foundation and Breadth 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 contexts. Study of selected musical forms and their relationship to social formations.

Units: 3

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 176T - Instrument Repertoire and Literature

Prerequisite: completion of JURY I on primary instrument
History and repertoire of the instrument. Weekly class meetings comprised of lecture, class discussion and individual performance of selected pieces.

Units: 2

MUSIC 178 - Class Jazz Piano

Prerequisite: acceptance to the BM Jazz Studies Option, MUSIC 65
Rudiments of jazz piano in keyboard realization and progressions found in basic and intermediate jazz standards.

Units: 1

Course Typically Offered:

MUSIC 179 - Choral Techniques and Materials

Prerequisite: 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

Prerequisite: passed piano proficiency MUSIC 42, MUSIC 4D, MUSIC 119, MUSIC 158B

Corequisite: MUSIC 179

Practice conducting and rehearsal techniques for Secondary Choral setting. Study in score analysis, influence of conducting gesture, diagnosis and solving of vocal issues, error detection. 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

Prerequisite: 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 181A - Jazz Composition

Prerequisite: MUSIC 64, MUSIC 65; Jazz Studies option major

Corequisite: MUSIC 103JO or MUSIC 102JE
Examination of compositional styles in the jazz and commercial idioms; fundamentals specific to melody, harmony, rhythm, and phrasing.

Units: 2

Course Typically Offered: Fall

MUSIC 181B - Jazz Arranging

Prerequisite: MUSIC 64, MUSIC 65, MUSIC 178, MUSIC 181A; Jazz Studies Option major
Corequisite: MUSIC 103JO or MUSIC 102JE
Examination of arranging in the jazz and commercial idioms; fundamentals specific to melody, harmony, rhythm, phrasing.

Units: 2

Course Typically Offered:

MUSIC 182 - Basic Arranging

Prerequisite: 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 found in 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

Prerequisite: MUSIC 49 or 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** for a maximum of 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** for a maximum of 6 units.

Course Typically Offered: Spring

MUSIC 184A - Orchestration for Winds and Percussion

Prerequisite: MUSIC 49 or MUSIC 182

Study of orchestration for standard woodwind, brass, and percussion instruments. Detailed study of orchestration for large ensembles featuring winds and percussion, including wind ensemble and concert band.

Units: 3

Course Typically Offered: Fall

MUSIC 184B - Orchestration for String and the Symphony Orchestra

Prerequisite: MUSIC 49 or MUSIC 182

Study of orchestration for standard string and keyboard instruments. Detailed study of orchestration for large ensembles featuring strings and keyboard instruments, including the symphony orchestra, chamber orchestra, and the string orchestra.

Units: 3

Course Typically Offered: Fall

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 185C - Lyric Diction III

Prerequisite: MUSIC 185A
For vocal performance majors or with permission of instructor. Singers' advanced diction studies of German, Finnish, Swedish and Norwegian.

Units: 2

Course Typically Offered: Fall

MUSIC 185D - Lyric Diction IV

Prerequisite: MUSIC 185A
For vocal performance majors or with permission of instructor. Singers' advanced diction studies of Russian, Czech and Polish languages as applied in vocal performance

practice.

Units: 2

Course Typically Offered: Spring

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.

Units: 3

MUSIC 187 - Pop Music: Jazz and Rock

GE Area/Graduation Requirement: GE Integration IC

Prerequisite: GE Foundation and Breadth 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.

Units: 3

Course Typically Offered: Fall, Spring

MUSIC 187Z - Pop Music: Jazz and Rock

GE Area/Graduation Requirement: GE Integration IC

Prerequisite: GE Foundation and Breadth 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.

Units: 3

MUSIC 190 - Independent Study

See Academic Placement. Approved for SP grading.

Units: 1-3 **Repeatable** for a maximum of 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

MUSIC 197 - Junior Recital

Prerequisite: junior standing, approval of major applied music instructor; completion of JURY II in area of concentration.

Preparation and presentation of a satisfactory junior recital. For Music Performance Option Majors.

Units: 1

Course Typically Offered: Fall, Spring

MUSIC 198 - Senior Recital or Project

Prerequisite: senior standing, passed piano proficiency, approval of major applied music instructor or adviser

Preparation and presentation of a satisfactory senior recital or project.

Units: 1-2

Course Typically Offered:

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

Prerequisite: MUSIC 220

Open only to master's degree students majoring in performance or to other master's students by permission of instructor. 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** for a maximum of 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 literature, rehearsal, and public performance..

Units: 2 **Repeatable** for a maximum of 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 techniques in methodology.

Units: 3

MUSIC 234 - Studies in Composition

Prerequisite: MUSIC 220

Open only to master's degree students majoring in composition. 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** for a maximum of 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 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.

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** for a maximum of 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** for a maximum of 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 repertoires, issues in musical aesthetics and criticism.

Units: 3 **Repeatable** for a maximum of 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 instrumental literature.

Units: 1-3 **Repeatable** for a maximum of 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** for a maximum of 6 units.

MUSIC 285 - Graduate Lyric Diction

Prerequisite: MUSIC 185B or permission of instructor
For graduate vocal performance/choral conducting majors. Advanced diction studies in German, Spanish, French, Italian, Russian, and English.

Units: 2

MUSIC 290 - Independent Study

See Academic Placement. Approved for SP grading.

Units: 1-3 **Repeatable** for a maximum of 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

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: MUSIC 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: MUSIC 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

Natural Science

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

NSCI 1A - Integrated Science: Physics and Chemistry

GE Area/Graduation Requirement: GE Breadth B1

Prerequisite: MATH 10A with a C grade or better

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. Meets G.E. B1 requirement only for liberal studies majors.

Weekly Lecture Hours: 3

Weekly Lab/Activity Hours: 2

Units: 4

NSCI 4 - Science and Nonsense: Facts, Fads, and Critical Thinking

GE Area/Graduation Requirement: GE Foundation A3

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," UFOs, astrology, etc.)

Units: 3

NSCI 4H - Science and Nonsense; Critical thinking and the philosophy of science

GE Area/Graduation Requirement: GE Foundation A3

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.)

Units: 3

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.

Course Fee: HNE program field trip fee, \$75

Units: 3

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** for a maximum of 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, CHEM 1B, CHEM 128A and CHEM 128B.

Units: 1 **Repeatable** for a maximum of 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 University 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** for a maximum of 12 units.

NSCI 40T - AEW Math - Math 76

These math courses are developed to meet the CSUF 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 and MATH 76.

Units: 1 **Repeatable** for a maximum of 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** for a maximum of 12 units.

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** for a maximum of 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** for a maximum of 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 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 BioSci 1A & 1B.

Units: 1 **Repeatable** for a maximum of 12 units.

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** for a maximum of 12 units.

NSCI 100 - Chemistry for Liberal Studies

Prerequisite: NSCI 1A
Not open to engineering students. 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

Prerequisite: NSCI 1A
Not open to engineering students. . 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

Prerequisite: NSCI 1A
Not open to engineering students. 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

Prerequisite: NSCI 1A
Not open to engineering students. 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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
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 110I - 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** for a maximum of 6 units.

NSCI 115 - Environmental Earth and Life Science

GE Area/Graduation Requirement: GE Integration IB

Prerequisite: GE Foundation and Breadth 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.

Units: 3

NSCI 116 - Energy, Technology, and Society

Prerequisite: NSCI 1A
Not open to Engineering students. 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

GE Area/Graduation Requirement: GE Integration IB

Prerequisite: GE Foundation and Breadth 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). Addresses applications of biotechnology to medicine, agriculture, the environment, and forensics, as well as their ethical implications.

Units: 3

NSCI 121 - Blood: Science, Art, and Folklore

GE Area/Graduation Requirement: GE Integration IB

Prerequisite: GE Foundation and Breadth 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.

Units: 3

NSCI 125 - Revenge of the Killer Microbes

GE Area/Graduation Requirement: GE Integration IB

Prerequisite: GE Foundation and Breadth 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.

Units: 3

NSCI 140T - Topics in Natural Science

Units: 1-6 **Repeatable** for a maximum of 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** for a maximum of 8 units.

Nursing

NURS 10 - Fundamental Concepts of Nursing Care

Prerequisite: Admission to the Nursing major
Corequisite: NURS 10AL, NURS 112, and NURS 114
Theory and concepts relative to healthcare of clients. Emphasis on identification of concepts

and principles derived from nursing and other disciplines.

Units: 3

Course Typically Offered: Fall, Spring

NURS 10AL - Practicum: Fundamental Concepts of Clinical Nursing

Prerequisite: Admission to the Nursing major.
Corequisite: NURS 10, NURS 112, and NURS 114
Clinical application of fundamental concepts and nursing process in care of clients. 135 clinical hours will be completed in the semester on a predetermined schedule.

Course Fee: CSU liability insurance fee, \$8

Units: 2-3

Course Typically Offered:

NURS 50 - Cooperative Education in Nursing

Prerequisite: current CPR certification, health clearance, NURS 10, NURS 10AL, NURS 110, NURS 110A, and NURS 110AL
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

Course Typically Offered: Fall, Spring

NURS 110 - Transitional Concepts in Nursing Care

Prerequisite: NURS 10, NURS 112, and NURS 114
Corequisite: NURS 110AL, NURS 121, NURS 121L, and NURS 124
Theory and concepts relative to healthcare of clients; emphasis on application of concepts and principles derived from nursing and other disciplines.

Units: 3

Course Typically Offered:

NURS 110AL - Practicum: Medical-Surgical Nursing

Prerequisite: NURS 10, NURS 10AL, NURS 112, and NURS 114

Corequisite: NURS 110, NURS 121, NURS 121L, and 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. 135 clinical hours will be completed in the semester on a predetermined schedule.

Course Fee: CSU liability insurance fee, \$8

Units: 2-3

Course Typically Offered: Fall, Spring

NURS 112 - Pathophysiology for Nurses

Prerequisite: Admission to the Nursing major.
Corequisite: NURS 10, NURS 10AL, and NURS 114
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, and the implications for nursing practice.

Units: 3

Course Typically Offered: Fall, Spring

NURS 113 - Problem-Based Case Studies for Nursing

Problem-based clinical cases to critically analyze the approach to selected problems in nursing practice. Application of the nursing process, use of evidence-based practice concepts and analysis of clinical practice issues in preparation of the undergraduate nurse for clinical practice.

Units: 2

Course Typically Offered: Fall, Spring

NURS 114 - Fundamental Skills and Assessments of Nursing Care

Prerequisite: Admission to nursing major.
Corequisite: NURS 10, NURS 10AL, and NURS 112
Integration of fundamental skills and assessments necessary to provide nursing care and assist individuals in meeting their common health needs.

Units: 3

Course Typically Offered:

NURS 121 - Psychosocial Nursing

Prerequisite: NURS 131, NURS 131L, NURS 132, and NURS 132L

Corequisite: NURS 140A, NURS 140AL, and NURS 142

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

Prerequisite: NURS 131, NURS 131L, NURS 132, and NURS 132L

Corequisite: NURS 140A, NURS 140AL, and NURS 142

Application of the nursing process to clients with psychosocial disorders. 90 clinical hours will be completed in the semester on a predetermined schedule.

Course Fee: \$20 and CSU liability insurance fee, \$8

Units: 2

Course Typically Offered: Fall, Spring

NURS 124 - Pharmacology in Nursing

Prerequisite: NURS 10, NURS 10AL, NURS 112, NURS 114, and CFS 38

Corequisite: NURS 110, NURS 110AL, and NURS 145

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

Prerequisite: NURS 110, NURS 110A, NURS 110AL, NURS 124, and NURS 145

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

Prerequisite: NURS 110, NURS 110A, NURS 110AL, NURS 124, and NURS 145

Corequisite: NURS 131

Application of specific skills, theories, and concepts in the care of the pediatric client/family with emphasis on wellness and illness. 90 clinical hours will be completed in the semester on a predetermined schedule.

Course Fee: \$20 and CSU liability insurance fee, \$8

Units: 2

NURS 132 - Nursing the Childbearing Family

Prerequisite: NURS 110, NURS 110A, NURS 110AL, NURS 124, and NURS 145

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 the Childbearing Family

Prerequisite: NURS 110, NURS 110A, NURS 110AL, NURS 124, and NURS 145

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. 90 clinical hours will be completed in the semester on a predetermined schedule.

Course Fee: \$20 and CSU liability insurance fee, \$8

Units: 2

NURS 135 - Professional Transition

Prerequisite: admission to the Nursing major with advanced standing

Introduction to theoretical and conceptual frameworks in nursing. Application to individual nursing practice. Opportunities for peer group support. Socialization into a B.S.N. program.

Units: 3

Course Typically Offered: Fall

NURS 136 - Health Appraisal

Prerequisite: admission to the Nursing 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.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Units: 3

Course Typically Offered: Fall, Spring

NURS 137 - Teaching Strategies for the Health Care Client

Prerequisite: upper-division standing. 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 140A - Complex Concepts of Nursing Care

Prerequisite: NURS 131, NURS 131L, NURS 132 and NURS 132L

Corequisite: NURS 121, NURS 121L, NURS 142, and NURS 140AL

Theory and concepts relative to health care of clients. Emphasis on synthesis of concepts and principles derived from nursing and other disciplines.

Units: 3

Course Typically Offered: Fall, Spring

NURS 140AL - Practicum: Advanced Medical-Surgical Nursing

Prerequisite: NURS 131, NURS 131L, NURS 132, NURS 132L and NURS 145

Prerequisite or Corequisite: NURS 140A, NURS 141, NURS 141LS, and NURS 142

Clinical application of concepts and nursing process in care of clients of all ages with

complex health problems. 90 clinical hours will be completed in the semester on a predetermined schedule.

Units: 2-3

Course Typically Offered:

NURS 141 - Concepts of Community Health Nursing

GE Area/Graduation Requirement:
Multicultural/International

Prerequisite: GE Foundation and Breadth D, NURS 121, NURS 121L, NURS 140A, NURS 140AL, and NURS 142
Corequisite: NURS 141LS
Community and home health nursing principles, practices, and services to benefit client systems at the primary, secondary, and tertiary levels of prevention; recognize the interrelatedness of nursing, public health, epidemiological, developmental, learning, and economic theories and concepts.

Units: 3

NURS 141LS - Practicum: Concepts of Community Health Nursing

GE Area/Graduation Requirement:
Multicultural/International

Prerequisite: GE Foundation and Breadth D, NURS 121, NURS 121L, NURS 140A, NURS 140AL, and NURS 142
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. 90 clinical hours will be completed in the semester on a predetermined schedule.

Course Fee: \$20 and CSU liability insurance fee, \$8

Units: 2

NURS 142 - Assessment of Common Cardiac Dysrhythmias

Prerequisite: NURS 131, NURS 131L, NURS 132, and NURS 132L
Corequisite: NURS 140A, and NURS 140AL
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

Prerequisite: GE Foundation B4, NURS 10, NURS 10AL, NURS 112, and NURS 114
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 technology applications to research.

Units: 3

Course Typically Offered: Fall, Spring

NURS 150 - Leadership and Health Care Economics

Prerequisite: NURS 140A, NURS 140AL, NURS 141, NURS 141LS, NURS 142, and NURS 145
Corequisite: NURS 150L and 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 - Leadership and Clinical Management

Prerequisite: NURS 140A, NURS 140AL, NURS 141, NURS 141LS, and NURS 142
Corequisite: NURS 150, NURS 151, NURS 155A, NURS 158, and NURS 158L
Development and application of leadership skills in a variety of health care settings. Covers using negotiation, delegation, management, and critical thinking skills while managing client caseloads with interprofessional team members in a cost-effective manner. 90 clinical hours will be completed in the semester on a predetermined schedule.

Course Fee: CSU liability insurance fee, \$8

Units: 2-3

Course Typically Offered:

NURS 151 - Senior Project

Prerequisite: senior standing or permission of instructor, NURS 121, NURS 121L, NURS 140A, NURS 140AL, and NURS 142
Corequisite: NURS 141, NURS 141LS, NURS 150, NURS 150L, and NURS 155A
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 - Advanced 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 155A - Patient Safety and Professional Nursing Practice

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 throughout the student nurse' program of study. Emphasis is placed on the promotion of culminating nursing curricula synthesis.

Units: 1-2

Course Typically Offered: Fall, Spring

NURS 156 - Nursing Informatics

This course will introduce important informatics tools that are currently being utilized in healthcare to ensure safe, quality care. Electronic Health Records (EHR), patient engagement and connected health platforms, telehealth, and quality.

Units: 3

Course Typically Offered: Fall, Spring

NURS 158 - Concepts of Older Adult Nursing

Prerequisite: NURS 140A, NURS 140AL, NURS 141, NURS 141LS, and NURS 142
Corequisite: NURS 150, NURS 150L, NURS 151, NURS 155A, and NURS 158L
Concepts and care of older adults in a variety of settings. This course is taken in the last semester of the Nursing Program and provides an opportunity for the student nurse to interact with adults 55 and older in the community, assisted living, and nursing home settings.

Units: 1

Course Typically Offered:

NURS 158L - Practicum: Concepts of Older Adult Nursing

Prerequisite: NURS 140A, NURS 140AL, NURS 141, NURS 141LS, and NURS 142
Corequisite: NURS 150, NURS 150L, NURS 151, NURS 155A, and NURS 158
Clinical application of concepts and care of older adults in a variety of settings. This course is taken in the last semester of the Nursing Program and provides an opportunity for the student nurse to interact with adults 55 and older in the community, assisted-living, and nursing home settings.

Units: 1

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** for a maximum of 12 units.

NURS 184 - Introduction to School Nursing

Prerequisite: Admission to School Nurse Services Credential Program, NURS 136, NURS 137, SPED 120, and 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

Prerequisite: admission to School Nurse Services Credential Program, NURS 136, NURS 137, SPED 120, and 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

Prerequisite: admission to School Nurse Services Credential Program, NURS 136, NURS 137, SPED 120, and COUN 174 or COUN 200

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.

Course Fee: CSU liability insurance fee, \$8

Units: 3

Course Typically Offered:

NURS 187 - School Nurse Practicum II

Prerequisite: admission to School Nurse Services Credential Program, NURS 136, NURS 137, NURS 184, SPED 120, and COUN 174 or COUN 200

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.

Course Fee: CSU liability insurance fee, \$8

Units: 3

Course Typically Offered:

NURS 190 - Independent Study

See Academic Placement regarding Independent Study. Approved for RP grading.

Units: 1-3 **Repeatable** for a maximum of 6 units.

NURS 210 - Health Assessment in Advanced Nursing Practice

Prerequisite: 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.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 3

Course Fee: \$40 and 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: admission into the graduate program in Nursing or post-master's certificate program and successful completion of NURS 211, NURS 212, NURS 221, NURS 223, NURS 225, NURS 264 and NURS 265
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: 2

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 243 - Psychiatric Disorders & Mental Health Problems in Primary Care

Prerequisite: 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 - Advanced Psychopharmacology Across the Life Span

Prerequisite: 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: 3

NURS 245 - Management of Common Psychiatric Conditions in Primary Care

Prerequisite: acceptance to PMHNP Advanced Certificate of Study Program or by permission of instructor
Corequisite: NURS 243 and NURS 244
Assessment, diagnosis and management of common mental health disorders across the lifespan. Analysis of clinical strategies and interventions in health promotion and maintenance and prevention of common psychiatric problems. Role of PMHNP in community mental health. 108 precepted clinical hours. Weekly one hour clinical conference.

Course Fee: \$40

Units: 2

NURS 246 - Methods of Psychotherapy

Prerequisite: NURS 243, NURS 244, NURS 245 or by permission of instructor
Corequisite: NURS 247
Types and principles of family, adult, and child psychotherapeutic 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

Prerequisite: NURS 243, NURS 244, and NURS 245 or by permission of instructor

Corequisite: NURS 246

Assessment, diagnosis, and psychopharmacologic and psychotherapeutic management of common mental disorders, including psychotic conditions, uncommon presentations, acute exacerbations, and crises. 206 precepted clinical hours. Weekly one hour clinical conference.

Course Fee: course fee, \$40.

Units: 4

NURS 248 - Psychiatric Disorders & Mental Health Problems in Special Populations

Prerequisite: NURS 246 and NURS 247 or by permission of instructor
Corequisite: 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. Addresses disparities in mental health care, legal and ethical issues.

Units: 2

NURS 249 - Management & Mental Health Care of Special Populations

Prerequisite: NURS 246 and NURS 247 or by permission of instructor
Corequisite: NURS 248
Assessment, diagnosis, and psychopharmacologic, 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: course fee, \$40.

Units: 4

NURS 261 - FNP Role in Caring for Pediatric Patients and Family

Prerequisite: admission into Fresno State's MSN Program and or post-graduate Certificate Programs, NURS 210, NURS 212, NURS 221, and NURS 225
Theoretical introduction of child and family theories, pediatric primary care and prevention, health maintenance, promotion, screenings, and anticipatory guidance for Family Nurse Practitioner students.

Units: 1

NURS 264 - Primary Practicum Family Nurse Practitioner

Prerequisite: 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. 204 faculty-supervised direct care clinical hours.

Course Fee: \$40 and CSU liability insurance fee, \$8

Units: 4

NURS 265 - Family Nurse Practitioner Role in Primary Prevention

Prerequisite: NURS 210 and 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

Prerequisite: NURS 264 and 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. Intense pharmacology for nurse practitioners.

Units: 2

NURS 267 - Practicum in Secondary Prevention, Family Nurse Practitioner

Prerequisite: NURS 264, NURS 265

Prerequisite or Corequisite: NURS 266

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.

Course Fee: course fee, \$40; CSU liability insurance fee, \$8

Units: 4

NURS 277 - Family Nurse Practitioner Role in Tertiary Prevention

Prerequisite: 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.

Course Fee: course fee, \$40

Units: 2

NURS 278 - Practicum in Tertiary Prevention, Family Nurse Practitioner

Prerequisite: NURS 266 and NURS 267

Prerequisite or Corequisite: NURS 277

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 physician in a primary care setting.

Course Fee: 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** for a maximum of 16 units.

NURS 290 - Independent Study

See Academic Placement regarding Independent Study. Approved for SP grading.

Units: 1-3 **Repeatable** for a maximum of 3 units.

NURS 295 - DNP Practicum

Prerequisite: admission to the 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 Graduate Studies Regulations for 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. Abstract required. Approved for SP grading.

Units: 3

NURS 298C - Project Continuation

Prerequisite: 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 Graduate Studies Regulations for 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: NURS 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

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

Prerequisite: 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

Prerequisite: 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

Prerequisite: 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

Prerequisite: 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

Prerequisite: 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

Prerequisite: 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

Prerequisite: 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

Prerequisite: 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

Prerequisite: 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

Prerequisite: 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

Prerequisite: NURS 591, NURS 593, NURS 595
Integration of clinical practice, theory, and research. Development of clinical expertise in management of health problems in selected populations. Implementation of project

proposal. One hour clinical conference per week. 204-306 total practicum hours.

Units: 2

NURS 597 - Doctoral Project

Prerequisite: 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 53 - Nutrition and Health: Realities and Controversies

GE Area/Graduation Requirement: GE Breadth E

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.

Units: 3

Course Typically Offered: Fall, Spring

NUTR 53HS - Nutrition and Health

GE Area/Graduation Requirement: GE Breadth E

Application of chemical and biological principles to carbohydrates, proteins, fats, vitamins, minerals, and water in human nutrition. This course is offered as a Service-learning which is an essential component for this course since it will allow students to 'learn by doing'. In this course 'learning by doing' is accomplished through students' educational presentations, guided reflection assignments, and participation in a comprehensive diet analysis project where students will collect, analyze and compare their own intakes and some other designated sample group in different communities.

Units: 3

NUTR 61 - Introduction to Food & Nutrition Careers

Overview of various careers in foods and nutrition; educational and experiential

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

Intermediate principles of nutrition and the application of these principles to diet and nutritional status. Interactions among diet, nutritional status, training, response, adaptation and performance.

Units: 3

Course Typically Offered: Fall, Spring

NUTR 149E - Food and Nutrition Communication

Prerequisite: 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.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Units: 3

Course Typically Offered: Spring

NUTR 153 - Advanced Nutrition

Prerequisite: NUTR 53, BIOL 67A, BIOL 67B 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:

NUTR 154 - Advanced Nutrition - Micronutrients and Fluids Metabolism

Prerequisite: NUTR 53, BIOL 67A, BIOL 67B and CHEM 150

Physiological and chemical basis of Micronutrient and fluids with emphasis on regulation, structure, digestion, absorption, transport, distribution of vitamins, minerals, and alcohol, water and electrolytes

Units: 3

NUTR 156 - Nutrition Assessment

Prerequisite: NUTR 153, and COUN 174

Corequisite: 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.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 3

Units: 3

Course Typically Offered:

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. Must be accepted in the Registered Dietitian track in the Dietetics Option.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 3

Units: 3

Course Typically Offered:

NUTR 160 - Nutrition across the Life Cycle 1

Prerequisite: NUTR 53

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

Prerequisite: NUTR 160

Topics relating to nutrition. Some topics may have labs.

Units: 1-4 **Repeatable** for a maximum of 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 166SE - 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

Prerequisite: NUTR 166SE

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 - Senior Dietetics Seminar

Prerequisite: Open only to students admitted to the Certificate in Dietetics Program.

Corequisite: NUTR 156

Prepares students to assume leadership positions in dietetics. Provides a forum where students focus on professional development, ethics and lifelong learning. Capstone course for seniors

applying to dietetic internship programs.

Units: 1

Course Typically Offered:

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** for a maximum of 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 193I - Supervised Work Experience

Prerequisite: permission of instructor
Supervised work experience in dietetics and nutrition. CR/NC grading only.

Units: 1-6 **Repeatable** for a maximum of 6 units.

Course Typically Offered: Fall, Spring

Peace and Conflict Studies

PAX 100 - Peace and Conflict Studies

GE Area/Graduation Requirement: GE Integration ID

Prerequisite: GE Foundation, Breadth D and PLSI 2

Provides an overview of causes and types of conflict. Critical examination of issues related to war, peace, and justice. Principled negotiation; cultural awareness.

Units: 3

Course Typically Offered: Fall, Spring

PAX 110 - Peace Building

GE Area/Graduation Requirement: GE Breadth E

Theories, methods, and skills in personal transformation, anger management, communication, engaging cooperation, building community, reducing prejudice, maintaining relationships, and consensus decision making. Emphasizes multicultural perspectives.

Units: 3

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.

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 185I - Internship

Prerequisite: permission of instructor and sponsoring agency

PAX 190 - Independent Study

See Academic Placement--Independent Study.
Approved for RP grading.

Units: 1-3 Repeatable for a maximum of 6 units.

Course Typically Offered:

Persian

PERS 1A - Elementary Modern Persian

GE Area/Graduation Requirement: GE Breadth C2

Beginning course in modern Persian focusing on elementary conversational and written Persian and cultural traditions of Persian speaking people.

Units: 3

Course Typically Offered: Fall

PERS 1B - Elementary Modern Persian B

GE Area/Graduation Requirement: GE Breadth C2

Prerequisite: PERS 1A or permission of instructor

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.

Units: 3

Course Typically Offered: Spring

PERS 2A - Intermediate Modern Persian 2A

Prerequisite: PERS 1B or permission of instructor

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 permission of instructor
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 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.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Units: 3

Course Typically Offered:

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:

PH 90 - Contemporary Health Issues

GE Area/Graduation Requirement: GE Breadth E

The course covers information relative to select areas of general health. Information presented will allow students to develop a better understanding of the meaning of health and be able to relate the information and topics to ones own lifestyle.

Units: 3

Course Typically Offered: Fall, Spring

PH 91 - Human Sexuality

GE Area/Graduation Requirement: GE Breadth E

Physiological, psychological, social, cultural, and developmental considerations for lifelong understanding related to sexuality.

Units: 3

Course Typically Offered:

PH 92 - Public Health Statistics

GE Area/Graduation Requirement: GE Foundation B4

Prerequisite: Mathematics Placement Category I or II; students must satisfy prerequisite of at least Intermediate Algebra, and must use a level of mathematics beyond that of Intermediate Algebra.

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.

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:

PH 104 - Global and Cultural Issues in Health

GE Area/Graduation Requirement: Multicultural/International

Prerequisite: GE Foundation and Breadth D
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.

Units: 3

Course Typically Offered: Fall, Spring

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, MATH 11, PSYCH 42, or DS 73

Modern concepts and principles of epidemiology; interaction of all agents, host, and environmental factors of communicable and noncommunicable diseases.

Units: 3

Course Typically Offered:

PH 110 - Drugs, Society, and Health

GE Area/Graduation Requirement: GE Breadth E

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.

Units: 3

Course Typically Offered:

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:

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:

PH 124 - Water Quality and Health

Burgeoning human population and urbanization is creating increased demands on fresh water resources and generating larger and more concentrated waste streams. This course will investigate, discuss, and debate major emerging water quality issues which threaten our water sustainability and the regulatory paradigms to address these challenges and waterborne diseases associated with it. (Formerly PH 166T)

Units: 3

PH 125 - Food Protection

Prerequisite or Corequisite: PH 162 passed with C grade or higher

Conceptual and applied principles of safe handling during manufacturing and retail preparation. Topics include causes of food-borne illness, important methods and practices in food protection, and field application of Federal Food Code and CalCode regulations. Relationship between bio-security and sanitation. (Formerly PH 166T)

Units: 3

PH 126 - Hazardous Materials Management

Prerequisite or Corequisite: PH 162

Study of the principles, applications and regulatory requirements of hazardous materials management. Topics covered include the types, sources, and characteristics of hazardous materials; laws and regulations governing such materials; general management methods and procedures; and hazardous waste minimization strategies. (Formerly PH 166T)

Units: 3

PH 127 - Female Sexuality

(PH 127 same as WGSS 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

GE Area/Graduation Requirement: Multicultural/International

Prerequisite: GE Foundation and Breadth D
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. S sections include a service-learning requirement.

Units: 3

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 WGSS 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:

PH 133 - Health Education Methods

Prerequisite: PH 114 and PH 131
Health education program planning, implementation, and evaluation. Provides needs assessment, health education curriculum development, and presenting and evaluating a health education intervention with a client group.

Units: 3

Course Typically Offered:

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:

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.

Units: 3

Course Typically Offered: Fall

PH 143 - Occupational 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 and Environmental Systems 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** for a maximum of 12 units.

PH 153 - Principles of Healthcare Finance

Principles of Healthcare Finance provides foundational instruction in the practices and responsibilities of the finance function in the healthcare organization and a beginning look at the managers role in the use of financial information.

Units: 3

Course Typically Offered: Fall, Spring

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 155 - Utilization of Health Care Resources

Prerequisite: ECON 40

This course provides understanding of how healthcare systems operate in terms of financing and reimbursement using economic rationales. It introduces students to fundamental principles in health economics that serve as the foundation of the US healthcare system.

Units: 3

PH 156 - Health & Well-being in the San Joaquin Valley

Why does the San Joaquin Valley experience relatively worse life outcomes? What public policies can improve health and well-being for Valley residents? Historical and current research on the economic, political, environmental, and cultural factors. Application of social-epidemiology frameworks.

Units: 3

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

GE Area/Graduation Requirement: GE Integration IB

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:

PH 162 - 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.

Units: 3

Course Typically Offered: Fall

PH 163 - Public Health Administration

Principles of public health administration, fundamentals of organization, and administration in public health.

Units: 3

Course Typically Offered:

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** for a maximum of 12 units.

Course Typically Offered: Fall, Spring

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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Course 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.

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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Units: 3

Course Typically Offered: Spring

PH 169 - Emergency & Disaster Management: Planning, Response, Recovery

Concepts of risk management, contingency planning and process development for public and private organizations. Topics include risk management issues relating to: biological, chemical, and physical threats, natural disasters, emergency planning and preparation and loss contingency plans.

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 171 - Exercise Design Evaluation

This course will provide students in-depth knowledge of exercise requirements, planning, conduct, and critique. Students will gain knowledge of the Homeland Security Exercise Evaluation Program (HSEEP) as well as Target Capabilities and how jurisdictions and organizations can build capabilities.

Units: 3

PH 172 - Emergency Management Support Function

The purpose of this course is to introduce students to the multitude of support functions and services required for a successful emergency management program. The goal of the course is to develop a whole community approach mindset to emergency management.

Units: 3

PH 173 - Emergency Management Planning

This course is designed for persons developing an effective emergency planning system. The course offers training in the fundamentals of emergency planning. An effective all-hazard emergency planning operations planning process to save lives and protect property will be discussed.

Units: 3

PH 174 - Incident Management Systems

This course provides the student with an in-depth knowledge of the IMS, terminology, players, and management philosophy. EOC setup, activation, operation, and termination are covered as well as staffing, training, and briefings.

Units: 3

PH 175I - Environmental Internship

Prerequisite: 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.

Course Fee: CSU liability insurance fee, \$8

Units: 1-4 **Repeatable** for a maximum of 6 units.

Course Typically Offered:

PH 176 - Critical Infrastructure Threat and Risk Assessment

Students will learn the concepts of critical infrastructure in emergency management and homeland security. Students will assess open source/unclassified critical infrastructure sectors for vulnerability to internal and external threats and develop a plan to mitigate the identified threats and risk.

Units: 3

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.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Units: 3

PH 185I - Fieldwork in Health

Prerequisite: completion of 24 units of the health science major (Core and Administration Option courses)

Repeatable to 3 units in any one area, maximum total 6. 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.

Course Fee: CSU liability insurance fee, \$8

Units: 1-3 **Repeatable** for a maximum of 6 units.

Course Typically Offered:

PH 188I - 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.

Course Fee: CSU liability insurance fee, \$8

Units: 1-3 **Repeatable** for a maximum of 6 units.

Course Typically Offered:

PH 190 - Independent Study

See Academic Placement. Approved for RP grading.

Units: 1-3 **Repeatable** for a maximum of 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.

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

Prerequisite: 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.

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 225I - 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.

Units: 3

PH 225IIS - Foundation in Health Promotion Part 2

Prerequisite: PH 208 and PH 225I.

Application of theories, practices, and technology to health promotion programs. S sections include a service-learning requirement.

Units: 3

PH 250 - Social Factors in Public Health

Prerequisite: 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

Prerequisite: 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 measurements 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

Prerequisite: PH 210
Focuses 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.

Units: 3

PH 285 - Internship in Public Health

Planning, implementation, participation, and evaluation in selected areas: safety, school health, community health, physical handicaps, occupational health, and environmental health. Approved for RP grading. CR/NC grading only.

Course Fee: CSU liability insurance fee, \$8

Units: 1-4 **Repeatable** for a maximum of 10 units.

PH 290 - Independent Study

See Academic Placement. Approved for RP grading.

Units: 1-3 **Repeatable** for a maximum of 6 units.

PH 297 - Professional Competencies in the Field of Public Health

This course helps prepare students to sit for the Certified Health Education Specialist (CHES) Exam. This course covers the eight areas of responsibility for health educators. Through a combination of text readings, on line module sessions, and self-study, students will gain an understanding of these competencies and certain core concepts in the fields of public health, health promotion, and health education. Students will also submit an assignment synthesizing the competencies achieved in this class. CR/NC grading only.

Units: 2-4

PH 298 - Project

Prerequisite: advancement to candidacy for MPH degree in Health Science
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 and shall include a written abstract. Approved for RP grading.

Units: 2-4

PH 298C - Project Continuation

Prerequisite: PH 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

PH 299 - Thesis

Prerequisite: preparation, completion, and submission of an acceptable thesis for the master's degree
Approved for RP grading.

Units: 2-4

PH 299C - Thesis Cont

Prerequisite: PH 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

Philosophy

PHIL 1 - Introduction to Philosophy

GE Area/Graduation Requirement: GE Breadth C2

Prerequisite: GE 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.

Units: 3

Course Typically Offered: Fall, Spring

PHIL 2 - Exploring Religious Meaning

GE Area/Graduation Requirement: GE Breadth C2

Prerequisite: GE 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.

Units: 3

Course Typically Offered: Fall, Spring

PHIL 10 - Self, Religion, and Society

GE Area/Graduation Requirement: GE Breadth C2

Prerequisite: GE Foundation A2
Conceptions of human nature; nature and varieties of religion; personal and social implications and values of religion.

Units: 3

Course Typically Offered: Fall, Spring

PHIL 20 - Moral Questions

GE Area/Graduation Requirement: GE Breadth C2

Prerequisite: GE 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).

Units: 3

Course Typically Offered: Fall, Spring

PHIL 25 - Methods of Reasoning

GE Area/Graduation Requirement: GE Foundation A3

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.)

Units: 3

Course Typically Offered:

PHIL 32H - Life, Death, and Afterlife

GE Area/Graduation Requirement: GE Breadth E

Diverse reflections (religious and 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.

Units: 3

PHIL 35H - Logic for Autonomy and Collaboration in the Marketplace of Ideas

GE Area/Graduation Requirement: GE Foundation A3

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 classical and contemporary sources on freedom of thought, freedom of conscience, and the autonomy of reason.

Units: 3

PHIL 45 - Introduction to Logic

GE Area/Graduation Requirement: GE Foundation A3

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.)

Units: 3

Course Typically Offered:

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 - Modern Philosophy: 17th and 18th Centuries

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, Nietzsche, 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, Heidegger, 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 108 - Jain, Hindu, and Asian American Religions

GE Area/Graduation Requirement: GE Breadth F

(PHIL 108 same as ASAM 108)
Interdisciplinary study of Asian American religions, spiritualities, cultural beliefs and practices, as well as their receptions, resistance, and racialized depictions within the U.S. culture, legal systems, and politics; includes Jain, Hindu, Sikh, animist, Buddhist, Taoist, and their sub-traditions.

Units: 3

Course Typically Offered:

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 111 - Philosophy of Race

Philosophical investigation of race, racism, and people of color in philosophy. Typical topics include: concepts of race and racial identities; social/political significance of racial categories; racial justice and redress for racism; ethics of racial discourse; intersections of racism with other oppressions.

Units: 3

Course Typically Offered: Fall

PHIL 115 - Ethical Theory

Introduction to the fundamental concepts and problems of moral theory. Examination of various ethical theories, including relativism, egoism, utilitarianism, intuitionism, 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

GE Area/Graduation Requirement: GE Integration IC

Prerequisite: GE Foundation and Breadth 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?"

Units: 3

Course Typically Offered:

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

Prerequisite: GE Foundation and Breadth B2; PHIL 20 or PHIL 120; or permission of instructor

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.

Units: 3

PHIL 125W - Issues in Political Philosophy

Prerequisite: GE Foundation A2 with a C grade or better.

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. Meets the upper-division writing skills requirement for graduation.

Units: 3

PHIL 126 - Social Justice

Examination of theories, issues, and goals in social justice. Explore social justice topics, such as justice in healthcare, wealth, the environment, culture, and religion, along with

responses to social injustice, such as responses to oppression, bigotry, poverty, and structural violence.

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

GE Area/Graduation Requirement: Multicultural/International

Prerequisite: GE Foundation and Breadth 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.

Units: 3

Course Typically Offered: Fall, Spring

PHIL 132 - Religion and the Margin

GE Area/Graduation Requirement: Multicultural/International

Prerequisite: GE Foundation and Breadth 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.

Units: 3

Course Typically Offered: Fall, Spring

PHIL 132Z - Religion and the Margin-London Semester

GE Area/Graduation Requirement:
Multicultural/International

Prerequisite: GE Foundation and Breadth 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.

Units: 3

PHIL 133W - Literature of the New Testament

Prerequisite: GE Foundation A2 with a C grade or better.
(ENGL 115W same as PHIL 133W) 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 literacy 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 Islam, 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

Prerequisite: PHIL 25 or PHIL 45 or permission of instructor
(Similar to MATH 110; consult department.)
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

GE Area/Graduation Requirement: GE Integration IC

Prerequisite: GE Foundation and Breadth 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.

Units: 3

Course Typically Offered:

PHIL 151 - Cognitive Science: Mind

GE Area/Graduation Requirement: GE Integration IC

Prerequisite: GE Foundation and Breadth 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.

Units: 3

PHIL 152 - Philosophy of Science

The nature of scientific inquiry 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 159 - Antisemitism and Islamophobia

Study of religion-based discrimination through examination of ideological, cultural, and economic trends leading to contemporary forms of Antisemitism and Islamophobia. Typical themes include orientalism, colonialism, globalization, race/racialization, gender, conceptions of East/West as divided or connected, and models of the natural environment.

Units: 3

PHIL 160 - Christianity

An academic study of Christianity that highlights its development from its beginnings as a small community within a Jewish context to becoming the world's largest religion. Topics might include scriptures, theological debates, sectarian splits, Reformation, Renaissance, the impact of modernity, and gender issues. (Formerly PHIL 165T)

Units: 3

PHIL 165T - Special Topics

Topics of current or interdisciplinary interest or requiring special background.

Units: 1-3 **Repeatable** for a maximum of 9 units.

PHIL 170T - Senior Seminar

Prerequisite: 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** for a maximum of 12 units.

PHIL 172T - Seminar in Religious Issues

Prerequisite: one upper-division philosophy course
Intensive investigation of problems in philosophical theology, comparative religion, and culture. Extensive writing and supervised research.

Units: 1-4 **Repeatable** for a maximum of 12 units.

PHIL 190 - Independent Study

See Academic Placement -- Independent Study. Approved for RP grading.

Units: 1-3 **Repeatable** for a maximum of 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** for a maximum of 6 units.

PHIL 198I - 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 199I - Fieldwork in Philosophy and Law

Prerequisite: 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 philosophy.

Units: 3

Physical Therapy

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

PHTH 240 - Advances in Orthopedic Physical Therapy I

Exploration of treatment of orthopedic problems.

Units: 2

PHTH 241 - Advances in Physical Therapy II

A continuation of Advances in Orthopedic Physical Therapy I.

Units: 2

PHTH 242 - Advanced Clinical Anatomy I

Exploration of clinical application of anatomical structures of joints.

Units: 2

PHTH 243 - Advanced Clinical Anatomy II

Prerequisite: 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

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

PHTH 262 gives students enrolled in the third semester or later in the Doctor of Physical Therapy program the opportunity to combine classroom theory with "on-the-job training" to work under the supervision of a licensed Physical Therapist. The student performs patient care skills commensurate with their academic preparation.

Units: 1-2

PHTH 288T - Topics in Physical Therapy

Prerequisite: permission of instructor
Selected topics in physical therapy related to recent developments and advances in the knowledge and practice of physical therapy.

Units: 1-6 Repeatable for a maximum of 6 units.

PHTH 290 - Independent Study

Supervised guidance for students who wish to do additional research. Approved for RP grading.

Units: 1-6

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 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.

Course Fee: 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.

Weekly Lecture Hours: 3
Weekly Lab/Activity Hours: 3
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.

Weekly Lecture Hours: 3
Weekly Lab/Activity Hours: 3
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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 6
Course Fee: CSU liability insurance fee, \$8

Units: 4

PHTH 528 - Management of Neurological Disorders in Physical Therapy I

Advanced evaluation and intervention approaches to neurological disabilities in adults with emphasis in evidence based practice, clinical reasoning and patient centered care. Course centers patients with neurologic disorders, stroke and Parkinson's disease.

Weekly Lecture Hours: 3
Weekly Lab/Activity Hours: 3
Units: 4

PHTH 529 - Management of Neurological Disorders in Physical Therapy II

Advanced evaluation and approaches to neurological disabilities in adults with emphasis on the patient with neurological such as spinal cord injury, multiple sclerosis, and traumatic head injury.

Weekly Lecture Hours: 3
Weekly Lab/Activity Hours: 3
Units: 4

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 536 - Physical Therapy Management of Body Systems

Pathophysiology and examination and intervention skills for the cardiovascular, pulmonary, endocrine, hematologic, lymphatic, and integumentary systems including system interactions; differential diagnosis; and the medical, pharmacological and surgical conditions commonly seen in physical therapy practices.

Weekly Lecture Hours: 3
Weekly Lab/Activity Hours: 3
Units: 4

PHTH 537 - Physical Therapy Management in Pediatrics

Advanced study of diagnosis and physical therapy problems found in pediatrics. Evaluation and intervention principles are used to discuss and explore clinical manifestations associated with diseases and functional impairments. Emphasis will be placed on the therapeutic intervention and program planning.

Course Fee: 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 546 - Physical Therapy Management of Body Systems II

This course is part two in a series on the clinical management of diseases and disorders across the body systems: endocrine, gastrointestinal, urological, reproductive, hepatic, hematologic, Immunologic, lymphatic, and integumentary systems and the interactions between systems. Emphasis is on the development of clinical reasoning and judgement as it related to the Physical Therapy management of patients with multi-system diseases and disorders.

Units: 3

PHTH 554S - Clinical Learning I

This course is designed to progress the development of student clinical competencies needed of an independent physical therapy practitioner in the outpatient orthopedic setting through a Service-Learning experiential model which is an integral component of the course.

Units: 2

PHTH 555SA - Clinical Learning IIA

This course is an experiential, Service-Learning model designed to progress the development of

clinical competencies needed of an independent physical therapy practitioner in the outpatient neurologic setting. Under faculty mentoring, student Physical Therapists will practice clinical decision analysis and clinical skills in the Gait, Balance and Mobility Center at Fresno State.

Units: 1

PHTH 555SB - Clinical Learning IIB

This course is an experiential, Service-Learning model designed to progress the development of clinical competencies needed of an independent physical therapy practitioner in the outpatient neurologic setting. Under faculty mentoring, student Physical Therapists will practice clinical decision analysis and clinical skills in the Gait, Balance and Mobility Center at Fresno State.

Units: 1

Course Typically Offered: Spring

PHTH 556S - Clinical Learning III

Designed as a continuation from PHTH 554S, this course is designed as a service-learning experience 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 knowledge in a clinical setting. Comprehensive examination, evaluation, and intervention will be used to manage the physical therapy patient. CR/NC grading only.

Course Fee: CSU liability insurance fee, \$8

Units: 5

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.

Course Fee: CSU liability insurance fee, \$8

Units: 5

PHTH 559 - Clinical Experience III

This final 12 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.

Course Fee: CSU liability insurance fee, \$8

Units: 5

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: 1

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 570 - Therapeutic Exercise and Applied Movement for Physical Therapists I

PHTH 570 is the first in a 4 part series of courses designed to introduce, reinforce and master the development of a reflective process for prescribing and modifying ICF based therapeutic exercise with an integrated approach of applied movement analysis, theoretical models and contemporary evidence based literature.

Units: 2

Course Typically Offered: Fall

PHTH 571A - Therapeutic Exercise and Applied Movement for Physical Therapists IIA

This course is the second in a 4 part series designed to introduce, reinforce and master the development of a reflective process of prescribing, progressing and modifying ICF based therapeutic exercise with an integrated approach of applied movement analysis, theoretical models and contemporary evidence based literature.

Units: 1

Course Typically Offered: Fall

PHTH 571B - Therapeutic Exercise and Applied Movement for Physical Therapists IIB

This course is the third in a 4 part series designed to introduce, reinforce and master the development of a reflective process of prescribing, progressing and modifying ICF based therapeutic exercise with an integrated approach of applied movement analysis, theoretical models and contemporary evidence based literature.

Units: 1

Course Typically Offered: Spring

PHTH 572 - Therapeutic Exercise and Applied Movement for Physical Therapists III

This course is the culmination of a 4 part series of courses designed to introduce, reinforce and master the development of a reflective process for prescribing and modifying ICF based therapeutic exercise with an integrated approach of applied movement analysis, theoretical models and contemporary evidence based literature.

Units: 2

Course Typically Offered: Fall

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 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: 1

PHTH 597 - Evidence Based Practice in Physical Therapy

This course will prepare students to understand how to apply the principles of evidence based practice to make optimal clinical decisions.

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. A total of 3-units are required for graduation. CR/NC grading only. Approved for RP grade.

Units: 1-3

PHTH 598C - Project Continuation

Prerequisite: PHTH 598
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 2A - General Physics

GE Area/Graduation Requirement: GE Breadth B1

Prerequisite: MATH 6 or DS 71 or MATH 75 or MATH 75A 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.

Weekly Lecture Hours: 3
Weekly Lab/Activity Hours: 3
Units: 4

Course Typically Offered: Fall, Spring

PHYS 2B - General Physics

Prerequisite: PHYS 2A with a C grade or better
Topics and concepts in light, electricity, magnetism, atomic structure, relativity, quantum nature of light and matter, nuclear structure and radiation.

Weekly Lecture Hours: 3
Weekly Lab/Activity Hours: 3
Units: 4

Course Typically Offered: Fall, Spring

PHYS 4A - Mechanics and Wave Motion

GE Area/Graduation Requirement: GE Breadth B1

Prerequisite: GE Foundation B4 with a C grade

or better: MATH 75 or MATH 75A and MATH 75B

Prerequisite or Corequisite: MATH 76 with a C grade or better

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. GE Breadth B1 when taken with PHYS 4AL.

Units: 3

Course Typically Offered:

PHYS 4AL - Laboratory in Mechanics and Wave Motion

GE Area/Graduation Requirement: GE Breadth B1

Introduction to laboratory methods. Experiments in mechanics, waves, and sound.

Weekly Lab/Activity Hours: 3
Units: 1

Course Typically Offered:

PHYS 4B - Electricity, Magnetism, and Heat

Prerequisite: PHYS 4A with a C grade or better, Prerequisite or Corequisite: MATH 77 with a C grade or better

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:

PHYS 4BL - Laboratory in Electricity, Magnetism, and Heat

Experiments in electricity, magnetism, heat, and thermodynamics.

Weekly Lab/Activity Hours: 3
Units: 1

Course Typically Offered:

PHYS 4C - Light and Modern Physics

Prerequisite: PHYS 4B and MATH 77 with a C grade or better.

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:

PHYS 10 - Conceptual Physics

GE Area/Graduation Requirement: GE Breadth B1

Prerequisite: GE 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.

Weekly Lecture Hours: 3
Weekly Lab/Activity Hours: 2
Units: 4

Course Typically Offered: Fall, Spring

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 investigate in more depth.

Units: 1-2

Course Typically Offered: Fall, Spring

PHYS 100 - Concepts of Quantum Physics

GE Area/Graduation Requirement: GE Integration IB

Prerequisite: GE Foundation and Breadth B
Key discoveries in Quantum physics and conceptual development of quantum theory. Lecture demonstration of experiments, graphical visualization of theory, hi-tech applications.

Units: 3

Course Typically Offered:

PHYS 102 - Modern Physics

Prerequisite: PHYS 4C
Prerequisite or Corequisite: MATH 81

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 physics, engineering, and chemistry.

Units: 3

Course Typically Offered:

PHYS 104 - Experimental Techniques in Condensed Matter Physics

Prerequisite: 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, excitation spectra, dielectric loss. Experience in X-ray diffraction, vacuum technology, thin-film deposition, and low temperature techniques.

Weekly Lecture Hours: 1
Weekly Lab/Activity Hours: 9
Units: 4

Course Typically Offered: Spring

PHYS 105A - Analytical Mechanics

Prerequisite: PHYS 4C
Prerequisite or Corequisite: MATH 81

(A) Analytical and vector treatment of the fundamental principles of statics, kinematics, and dynamics. (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 106 - Introduction to Computer Simulations in Physics

Prerequisite: PHYS 4C

This course introduces computational techniques in Physics. Basic programming in Python will be presented, with focus on designing computer simulations and applying them to solve problems in statistical physics, quantum mechanics and modeling of complex systems. Topics in probability theory and statistics will be discussed and a modern introduction to artificial intelligence will be presented.

Units: 3

Course Typically Offered: Spring

PHYS 107A - Intermediate Electricity and Magnetism

Prerequisite: PHYS 105A and MATH 81
(A) Mathematical analysis of electrostatics and magnetostatics, Gauss'law, solutions of Laplace's equation, images, theory of conduction, magnetic potentials. (B) 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

Prerequisite: 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: Spring

PHYS 110 - Physical Optics

Prerequisite: 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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Units: 3

Course Typically Offered: Fall

PHYS 115 - Quantum Mechanics

Prerequisite: PHYS 102, 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

Prerequisite: 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, and artifacts in images.

Units: 3

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.

Weekly Lecture Hours: 1
Weekly Lab/Activity Hours: 4
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

Prerequisite: 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

Prerequisite: 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.

Weekly Lecture Hours: 3
Weekly Lab/Activity Hours: 3
Units: 4

Course Typically Offered: Fall

PHYS 155 - Seminar in Biomedical Physics/Neurosciences

Prerequisite: Biomedical Physics major or permission of the Department Chair
One-to-one interaction with invited speakers giving talks on the 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** for a maximum of 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.

Units: 3

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.

Units: 3

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.

Units: 3

PHYS 162 - Condensed Matter Physics

Prerequisite: 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 163 - Introduction to Particle Physics and ATLAS Experiment of LHC at CERN

Prerequisite: PHYS 4A, PHYS 4B, and PHYS 4C. PHYS 102 is strongly recommended.
Online course to 20 CSU Nuclear and Particle Physics Consortium (NUPAC) campuses, especially those intended to work on experimental particle physics research at the European Organization for Nuclear Research (CERN) in Geneva, Switzerland, Fermi National Accelerator Laboratory near Chicago, etc. at CERN on ATLAS research during summer.

Units: 4

Course Typically Offered: Fall

PHYS 164 - Tools and Skills for Experimental Particle Physics Research

Prerequisite: PHYS 163

Online course to 20 CSU Nuclear and Particle Physics Consortium (NUPAC) campuses and only those students who have been selected to work on experimental particle physics research at the European Organization for Nuclear Research (CERN) in Geneva, Switzerland, Fermi National Accelerator Laboratory near Chicago, etc. for incoming summer.

Units: 4

Course Typically Offered: Spring

PHYS 168S - Physics Outreach

Prerequisite: any one of the following courses: NSCI 1A, PHYS 2A, PHYS 4A, and PHYS 10
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.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 3

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:

PHYS 171 - Analytical Methods

Prerequisite: PHYS 102, PHYS 110, PHYS 105A, PHYS 107A, PHYS 140

Prerequisite or Corequisite: PHYS 105B and PHYS 115

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** for a maximum of 12 units.

PHYS 180 - Seminar in Physics

Prerequisite: senior or graduate physics major or permission of department chair

Units: 1 **Repeatable** for a maximum of 3 units.

Course Typically Offered: Fall, Spring

PHYS 190 - Independent Study

See Academic Placement. Approved for RP grading.

Units: 1-3 **Repeatable** for a maximum of 6 units.

Course Typically Offered: Fall, Spring

PHYS 203 - Classical Mechanics

Prerequisite: 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 I

Prerequisite: PHYS 107B, PHYS 170A
Electromagnetic theory and its applications; electrostatics, boundary-value problems in electrostatics, dielectrics, multipoles, magnetostatics, Maxwell's equations, electromagnetic radiation, basic optics, dispersion, wave guides and resonant cavities.

Units: 4

PHYS 220B - Advanced Electricity and Magnetism II

Prerequisite: PHYS 220A
Radiating systems; multipole radiation; special relativity; Lorentz symmetry and Lorentz transformations; dynamics of relativistic particles and fields; Lagrangian and Hamiltonian formulation of field theory; radiation of charged particles; Lienard-Wiechert potentials; Larmor formula; radiation damping.

Units: 4

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. Berry Phases, Aharonov-Bohm effect, EPR experiments, Bell theorem.

Units: 4

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 and Feynman diagrams.

Units: 3

PHYS 262 - Advanced Condensed Matter Physics

Prerequisite: 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: 1-4 **Repeatable** for a maximum of 8 units.

PHYS 280 - Physics Graduate Seminar

Prerequisite: graduate Physics major or permission of department chair
Presentation on a host of research and career topics by outside researchers as well as Fresno State faculty. Graduate Physics students doing a thesis must take this course and give a 30-40 minute talk on their research.

Units: 1 **Repeatable** for a maximum of 2 units.

PHYS 290 - Independent Study

See Academic Placement. Approved for RP grading.

Units: 1-3 **Repeatable** for a maximum of 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: 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

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: 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

MEAG 121 - Ag Design and Fabrication

Prerequisite: MEAG 50
Design and fabrication of agricultural projects using metal and/or wood along with power train components including gears, chain drive, belts and pulleys, hydraulic actuators and controls. Emphasis will be placed on manufacturing processes, production techniques and material cost estimation. (Formerly Plant 170T)

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Course Fee: \$20

Units: 3

Course Typically Offered: Fall

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

Course Typically Offered: Fall, Spring

PLANT 20 - 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. (Formerly CRSC 1)

Units: 3

Course Typically Offered: Fall, Spring

PLANT 30 - 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 HORT 1)

Units: 3

Course Typically Offered: Fall, Spring

PLANT 40 - 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. (Formerly OH 1)

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Course Fee: \$10

Units: 3

Course Typically Offered: Fall, Spring

PLANT 41 - 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. (Formerly OH 4)

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Course Fee: \$50

Units: 3

Course Typically Offered: Spring

PLANT 60 - 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 the management of insects, diseases, weeds, and rodents in the field and around the home. (Formerly PLTH 1)

Units: 3

PLANT 70 - Introduction to Irrigated Soils

Interpretation of physical and chemical properties of biological and mineral matter for the management of soils in irrigated agriculture. Emphasis on soil/plant and plant/water relationships. (Formerly SW 1)

Units: 3

PLANT 71 - Agricultural Water

Water resources and problems in California; water requirements for agricultural and ornamental crops; irrigation scheduling and application methods. (Formerly SW 2)

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 3

Units: 3

Course Typically Offered:

PLANT 99 - Introduction to Biometrics

Prerequisite: MATH 11 or permission of instructor

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:

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 101 - Crop Nutrition

Prerequisite: PLANT 172

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. (Formerly SW 101)

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 3

Units: 3

Course Typically Offered: Spring

PLANT 105 - Food, Society, and Environment

GE Area/Graduation Requirement: GE Integration IB

Prerequisite: junior standing; GE Foundation and Breadth B

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 activities and environmental resources.

Units: 3

Course Typically Offered: Fall, Spring

PLANT 107 - Plant Propagation

Prerequisite: BIOL 11, CHEM 3A

Principles and practices of propagating plants, sexual and asexual. Seeds, cuttings, layering, grafting, budding, and tissue culture. Propagation media and rooting aids.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 3

Additional Activity: field trips

Course Fee: \$10

Units: 3

Course Typically Offered: Fall, Spring

PLANT 108 - Micropropagation

Prerequisite: 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.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 3

Units: 3

Course Typically Offered: Fall

PLANT 110W - Dimensions in Agriculture

Prerequisite: GE Foundation A2 with a C grade or better.

Current agricultural problems and developments; nature of agricultural industries in a changing world. Interrelationships among agriculture, government, labor, and the public. Meets the upper-division writing skills

requirement for graduation.

Units: 3

Course Typically Offered:

PLANT 120 - Row Crops

Prerequisite: BIOL 11, PLANT 20

The culture of beans, cotton, sugar beets, and oil crops; varieties, nutrition, insect, disease, and weed control; harvest, storage, uses, and marketing. (Formerly CRSC 101)

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 3

Units: 3

Course Typically Offered: Fall

PLANT 121 - Cereal and Forage Crops

Prerequisite: BIOL 11, PLANT 20

The culture of barley, corn, sorghum, oats, rice, rye and wheat; varieties, nutrition, insect disease, and weed control; harvest, storage, uses, and marketing. (Formerly CRSC 102)

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 3

Units: 3

Course Typically Offered: Fall

PLANT 122 - Range Ecology and Management

Prerequisite: BIOL 10 or BIOL 11, PLANT 20

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. (Formerly CRSC 105)

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 3

Units: 3

Course Typically Offered: Spring

PLANT 123E - Vegetable Production

Prerequisite: BIOL 11, PLANT 20

Cultural practices, harvesting, processing, and marketing of vegetables of economic importance to California and the San Joaquin Valley. (Formerly CRSC 111)

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 3

Course Fee: field trip fee, \$65

Units: 3

Course Typically Offered: Fall

PLANT 124E - Organic Crop Production

Prerequisite: BIOL 11, PLANT 20
Cultural practices, harvesting, processing, and marketing of organically grown crops of economic importance to California and the San Joaquin Valley. (Formerly CRSC 115)

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Units: 3

Course Typically Offered: Spring

PLANT 130 - Fruit Species of California

Prerequisite: BIOL 11 or PLANT 30 or PLANT 40
Fruit and nut species common to California, their adaptation and uses. (Formerly HORT 110)

Units: 3

Course Typically Offered: Fall, Spring

PLANT 132 - Principles of Pomology II

Prerequisite: BIOL 11 or PLANT 30
Pruning, fruit and vegetative development, pollination, rootstocks, propagation, and nutrition. Crop fundamentals of spring cultural practices. (Formerly HORT 112)

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Course Fee: \$10

Units: 3

Course Typically Offered: Fall

PLANT 133 - Citrus and Subtropical Fruits

Prerequisite: BIOL 10 or BIOL 11 or PLANT 30
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 (Formerly HORT 113)

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 3

Units: 3

Course Typically Offered: Fall

PLANT 134 - Micrometeorology

Prerequisite: MATH 75 (or equivalent) and GEOG 5 (or equivalent), or permission of instructor
(GEOG 114 same as PLANT 134.)
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 140 - Greenhouse & Nursery Crop Production

Prerequisite: BIOL 11 or PLANT 40
Fundamentals of greenhouse and nursery crop production. Emphasis on sustainable and economically viable production and management systems for significant flower, foliage and nursery crops. (Formerly OH 104)

Weekly Lecture Hours: 3
Weekly Lab/Activity Hours: 3
Additional Activity: field trips
Units: 4

Course Typically Offered: Fall

PLANT 141 - Woody Plant Materials

Prerequisite: BIOL 11 or PLANT 40
Survey of woody plant materials including identification, growth habits and cultural requirements. Emphasis on plants used in the California landscape. (Formerly OH 108)

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Additional Activity: field trips
Units: 3

Course Typically Offered: Spring

PLANT 142 - Herbaceous Plant Materials

Prerequisite: BIOL 11 or PLANT 40
Survey of herbaceous plants materials including identification, growth habits and cultural requirements. Emphasis on plants used in California landscapes, botanical gardens and

arboreta. (Formerly OH 109)

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Additional Activity: field trips
Units: 3

Course Typically Offered: Fall

PLANT 143 - Turfgrass Production and Management

Prerequisite: BIOL 11 or PLANT 40
Production and maintenance of grass for lawns, public parks, public institutions, playgrounds, playing fields, golf courses, bowling greens; identification of turfgrasses and turfgrass seed. (Formerly OH 110)

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Additional Activity: field trips
Units: 3

Course Typically Offered: Fall

PLANT 150 - Crop Improvement

Prerequisite: BIOL 11
Application of genetic, cytological and environmental principles to the 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, Spring

PLANT 160 - Weed Science

Prerequisite: BIOL 11, CHEM 3A
Vegetation management in California. Identification of common weeds. Fundamentals of preventive, cultural, biological, physical, and chemical weed control methods. (Formerly PLTH 105)

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Units: 3

Course Typically Offered:

PLANT 161 - Plant Pathology

Prerequisite: BIOL 1A or BIOL 11
Study of the causal agents, disease cycles, and control of plant diseases. (Formerly PLTH 106)

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3

Course Fee: \$7

Units: 3

Course Typically Offered: Fall

PLANT 162 - Economic Entomology

Prerequisite: BIOL 11

Biology, ecology, management and taxonomy of economically important arthropods, with special emphasis on agricultural ecosystems in California. (Formerly PLTH 103)

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 3

Course Fee: \$10

Units: 3

Course Typically Offered:

PLANT 163 - Integrated Pest Management

Prerequisite: PLANT 162

Concepts and principles of integrated pest management. Overview of agricultural pest problems; sampling techniques; biology and ecology of major agricultural crop pests; integration of control measures for the economic management of pests. (Formerly PLTH 108)

Units: 3

Course Typically Offered: Fall, Spring

PLANT 164 - Plant Nematology

Prerequisite: 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. (Formerly PLTH 104)

Units: 3

Course Typically Offered: Fall

PLANT 165 - Pesticides

Prerequisite: CHEM 3B or CHEM 8

Typical uses, modes of action, mechanisms of selectivity, environmental interactions, and user safety of insecticides, herbicides, fungicides, nematicides, rodenticides, and plant growth regulators. Effective and safe use of agriculture chemicals by reading labels and following laws/regulations. (Formerly PLTH 102)

Units: 3

Course Typically Offered: Fall

PLANT 166 - Mycology

Prerequisite: BIOL 1A or BIOL 11

Growth, physiology, reproduction, taxonomy, ecology, and economic impacts of fungi, slime molds, and oomycota. Role of fungi as symbionts, pathogens, and saprophytes are examined (Formerly PLANT 170T)

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 3

Units: 3

Course Typically Offered: Spring

PLANT 167 - Diagnosis and Control of Plant Diseases

Prerequisite: PLANT 161

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. (Formerly PLTH 109)

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 3

Units: 3

Course Typically Offered: Spring

PLANT 168 - Biological Control

Prerequisite: PLANT 162

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. (Formerly PLTH 107)

Units: 3

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 for a maximum of 6 units.

PLANT 171 - Soils in the Environment

Prerequisite: CHEM 3A

Physical, chemical, and biological 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. No credit if taken after PLANT 172. (Formerly SW 100N)

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 3

Units: 3

Course Typically Offered: Fall

PLANT 172 - Soils

Prerequisite: CHEM 3A, intermediate algebra

Physical, chemical, and biological 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. (Formerly SW 100)

Units: 3

Course Typically Offered:

PLANT 172L - Soils Lab

Prerequisite or Corequisite: PLANT 172

Physical, chemical, and biological analysis. Interpretation of field and laboratory data. (Formerly SW 100L)

Weekly Lab/Activity Hours: 3

Additional Activity: field trips

Course Fee: \$10

Units: 1

Course Typically Offered: Fall

PLANT 174 - Soil and Water Management

Prerequisite: PLANT 71

Prerequisite or Corequisite: PLANT 172

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. (Formerly SW 104)

Units: 3

Course Typically Offered: Fall

PLANT 175 - Irrigation Systems

Prerequisite: PLANT 71
Principles of planning, installation and evaluation of irrigation systems for field crops, permanent crops and ornamental horticulture. Pressurized systems (sprinkler and drip irrigation) emphasized. (Formerly SW 111)

Units: 3

Course Typically Offered: Spring

PLANT 180 - Undergraduate Research

Prerequisite: junior/senior standing
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** for a maximum of 6 units.

PLANT 194I - 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:

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** for a maximum of 4 units.

PLANT 250T - Topics in Plant Science

Prerequisite: 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** for a maximum of 6 units.

PLANT 251 - Soil-Plant-Water Relations

Prerequisite: BIOL 161 and PLANT 172
Water flow and solute transport through the soil-plant-atmosphere continuum (SPAC). Soil-plant-water relationships affecting water use efficiency, agricultural productivity, and environmental quality. Management of salinity, drainage, and trace elements. Irrigation scheduling and water quality.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Units: 3

Course Typically Offered: Spring

PLANT 252 - Plant Nutrition

Prerequisite: BIOL 161, and PLANT 172, 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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 3
Units: 3

Course Typically Offered: Spring

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

Course Typically Offered: Fall

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

Course Typically Offered:

PLANT 261 - Advanced Plant Health Management

Prerequisite: PLANT 163 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

Course Typically Offered: Fall

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** for a maximum of 4 units.

PLANT 290 - Independent Study

See Academic Placement -- Independent Study.
Approved for RP grading.

Units: 1-3 **Repeatable** for a maximum of 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** for a maximum of 6 units.

PLANT 299C - Thesis Continuation

Prerequisite: PLANT 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

Political Science

PLSI 1 - Modern Politics

GE Area/Graduation Requirement: GE Breadth D2

Prerequisite: G.E. Foundation A2 for students in English college -readiness Category III and IV
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.

Units: 3

Course Typically Offered: Fall, Spring

PLSI 2 - American Government and Institutions

GE Area/Graduation Requirement: U.S. and California Government Graduation Requirement

Prerequisite: GE Foundation A2 for students in English college -readiness Category III and IV
Meets the United States Constitution requirement and the federal, California state, and local government requirement. Not open to students with credit in PLSI-101. 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. Not available for CR/NC grading.

Units: 3

Course Typically Offered:

PLSI 2H - American Government and Institutions

GE Area/Graduation Requirement: U.S. and California Government Graduation Requirement

Meets the United States Constitution requirement and the federal, California state, and local government requirement. Not open to students with credit in PLSI-101. 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.

Units: 3

PLSI 71H - Introduction to Environmental Politics

GE Area/Graduation Requirement: GE Breadth D2

Introduction to the study of environmental politics and policy making in the United States; a brief history of environmentalism; basic principles in environmental policy making including interest groups, legislatures, and levels of government selection of current topics in environmental issues.

Units: 3

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:

PLSI 100W - Writing about Politics: Local, National, and Global Issues

Prerequisite: grade of C or better in ENGL 5B or ENGL 10; to be taken no sooner than the term in which 60 units are completed
Through guided writing assignments and peer and faculty feedback, students will practice and polish fundamental research and writing skills necessary for both academic work in political science and professional careers for graduates while gaining a deeper understanding of various contemporary local, national, and global issues or challenges. Meets the upper-division writing skills requirement for graduation. Meets upper-division writing skills graduation requirement.

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 and American Government 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

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

Prerequisite: at least one 3 unit WGSS or PLSI course
(WGSS 107 same as PLSI 107). 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:

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

Course Typically Offered:

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** for a maximum of 8 units.

PLSI 120 - International Politics

GE Area/Graduation Requirement:
Multicultural/International

Prerequisite: GE Foundation and Breadth 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.

Units: 3

Course Typically Offered:

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).

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

PLSI 127 - International Human Rights

This course examines the evolution of human rights globally and as part of foreign policy from World War II to today. Using assigned readings, class discussions, student research, and film, it explores US and other countries' civil and political rights in the context of global efforts and institutions, studies the role of foreign policy and international law, and explores the tension between national interests and moral values. How and why have human rights progressed in the world, why do so many violations still occur, and what can and should we do about it? (Formerly PLSI 128T)

Units: 3

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** for a maximum of 8 units.

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:

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** for a maximum of 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** for a maximum of 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** for a maximum of 8 units.

PLSI 145T - Area Studies in Asia

Government and politics of selected countries in East and Southeast Asia.

Units: 1-4 **Repeatable** for a maximum of 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** for a maximum of 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.

Units: 3

PLSI 148 - Latin American Politics

(CLAS 173 same as PLSI 148) 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.

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** for a maximum of 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:

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.

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.

Units: 3

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.

Units: 3

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** for a maximum of 8 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.

Units: 3

PLSI 158I - Internship in Political Science

Option for completion of the Political Science capstone requirement. Includes professional development and career preparation curriculum. Students are matched with government agencies, non-profits, campaigns, and government-related organizations to gain work experience.

Units: 3 **Repeatable** for a maximum of 6 units.

Course Typically Offered:

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** for a maximum of 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** for a maximum of 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 172 - Moot Court: Appellate Court Proceedings and Advocacy

Uses a fictional Supreme Court case on appeal to expose students to the basic elements of legal research, brief writing, case law, and oral advocacy. Case differs each time the course is taught. (Formerly PLSI 179T)

Units: 3 **Repeatable** for a maximum of 6 units.

Course Typically Offered: Spring

PLSI 173 - Moot Court: Legal Arguments and Courtroom Tactics

Uses a fictional Supreme Court case on appeal to expose students to the basic elements of legal research, brief writing, case law, and oral advocacy. Case differs each time the course is taught. (Formerly PLSI 179T)

Units: 3 **Repeatable** for a maximum of 6 units.

Course Typically Offered: Fall, 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 - Seminar in Public Law

Administrative law, international law, judicial administration, jurisprudence, legal institutions.

Units: 3 **Repeatable** for a maximum of 9 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

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 188T - Topics in Public Administration

Treatment of current topics and problems in fiscal administration, public personnel administration, and planning.

Units: 1-4 **Repeatable** for a maximum of 9 units.

PLSI 190 - Independent Study

See Academic Placement --Independent Study.
Approved for RP grading.

Units: 1-3 **Repeatable** for a maximum of 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 192 - Study Abroad Capstone

Option for completion of the Political Science capstone requirement. An approved 3-unit course taken at a university outside the US in Political Science or related field that will transfer, along with a written reflection on study abroad experience as it relates to major field and career.

Units: 3

PLSI 193 - Senior Research Capstone

Prerequisite: senior standing and PLSI 90
Option for completion of the Political Science capstone requirement. Includes a review of research in major political science subfields. Students learn about research design, conducting research, and will produce a research paper reflective of knowledge and experience acquired as a major.

Units: 3

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

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** for a maximum of 6 units.

PLSI 299 - Thesis

See Criteria for Thesis and Project. Approved for RP grading.

Units: 3-6

Portuguese

PORT 1A - Elementary Portuguese

GE Area/Graduation Requirement: GE Breadth C2

Prerequisite: GE 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:

PORT 1B - Elementary Portuguese

GE Area/Graduation Requirement: GE Breadth C2

Prerequisite: GE 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.

Units: 4

Course Typically Offered:

PORT 2A - Intermediate Portuguese

Prerequisite: PORT 1B recommended or permission of instructor
Intermediate course emphasizing speaking, listening, reading longer texts, writing compositions, grammar, and Luso-Brazilian culture.

Units: 3

Course Typically Offered: Fall

PORT 2B - Intermediate Portuguese

Prerequisite: 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

PORT 101 - Portuguese and Brazilian Literatures

GE Area/Graduation Requirement: GE Integration IC

Prerequisite: GE Foundation and Breadth C
A survey of Portuguese and Brazilian literatures from the 19th century to today, comprising different literary genres, and related topics in cultural studies. Taught in English using works in translation.

Units: 3

Course Typically Offered:

PORT 102 - Cultures of the Azorean Isles

GE Area/Graduation Requirement: GE Integration IC

Prerequisite: GE Foundation and Breadth C
This course analyses the culture of the Azorean Isles, a Portuguese autonomous region, through history, literature, religion, festivities, food, science and politics. Taught in English using representative works in translation.

Units: 3

Course Typically Offered:

PORT 103 - European and Latin American Film: Portugal and Brazil

GE Area/Graduation Requirement: GE Integration IC

Prerequisite: GE Foundation and Breadth C
Film from Portugal and Brazil examined in a thematic comparative approach. The course explores aspects of contemporary society in a situated cultural context. Taught in English using works in translation.

Units: 3

PORT 190 - Independent Study

See Academic Placement -- Independent Study.
Approved for RP grading.

Units: 1-3 **Repeatable** for a maximum of 6 units.

Course Typically Offered: Fall, Spring

Physical Science

PSCI 21 - Elementary Astronomy

GE Area/Graduation Requirement: GE Breadth B1

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.

Weekly Lecture Hours: 3
Weekly Lab/Activity Hours: 2
Additional Activity: field trips
Course Fee: \$40

Units: 4

PSCI 131 - Concepts of Classical Physics from Babylon to Maxwell

GE Area/Graduation Requirement: GE Integration IB

Prerequisite: GE Foundation and Breadth B
Concepts, theories, and laws of classical physics. Mathematics, astronomy, mechanics, light, electricity, magnetism, thermodynamics, chemistry, and the atom.

Units: 3

PSCI 168 - Energy and the Environment

GE Area/Graduation Requirement: GE Integration IB

Prerequisite: GE Foundation and Breadth 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.

Units: 3

PSCI 180T - Topics in Physical Science

Detailed discussion of special topics within the realm of physical science.

Units: 1-3 **Repeatable** for a maximum of 9 units.

Psychology

PSYCH 10 - Introduction to Psychology

GE Area/Graduation Requirement: GE Breadth D2

Prerequisite: GE Foundation A2 for students in English college -readiness Category III and IV
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.

Units: 3

Course Typically Offered: Fall, Spring

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:

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** for a maximum of 12 units.

PSYCH 42 - Introductory to Statistics and Data Analysis

GE Area/Graduation Requirement: GE Breadth B4

Prerequisite: mathematics placement category I or II and pre-psychology, biology, or natural sciences major status; pre-psychology majors in mathematics placement categories III and IV should take MATH 3L or the equivalent Fundamentals of statistics and data analysis as practiced in psychology. Topics include sampling and measurement, describing variables and statistical relationships, correlation and regression, basic statistical inference, and the written communication of research results. G.E. Foundation B4.

Units: 4

Course Typically Offered:

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 for a maximum of 6 units.

PSYCH 61 - Personal Adjustment

GE Area/Graduation Requirement: GE Breadth E

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.

Units: 3

Course Typically Offered: Fall, Spring

PSYCH 62H - Introduction to Social and Cultural Psychology

GE Area/Graduation Requirement: GE Breadth D2

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, attitude change, group influence, prejudice and racism, aggression, attraction and intimacy, altruism and helping.

Units: 3

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.

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 include lab hours.

Units: 2-5

PSYCH 121 - Learning and Memory

Prerequisite: 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

Prerequisite: 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.

Units: 4

PSYCH 124 - Sensation and Perception

Prerequisite: 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

Prerequisite: PSYCH 36 with a C grade or better and Psychology major or minor status
Detailed study of the structure and function of

the nervous system as it relates to sensory-motor and behavioral processes, with an emphasis on the human brain as the biological basis of sleep and arousal, approach and avoidance, communication, ingestion, and reproduction.

Units: 4

PSYCH 126 - Cognitive Neuroscience

Prerequisite: PSYCH 36 with a C grade or better and Psychology major or minor status
Survey of the basic findings, theories, and methods in cognitive neuroscience, the study of the neural bases of cognition. Representative topics include perceptual and motor processes, sensory inference, attention, learning and memory, reward processing, decision making, and cognitive control.

Units: 4

PSYCH 127 - Forensic Cognitive Science

Prerequisite: Psychology major or minor status or CRIM or FBS majors or permission of instructor
Study of cognitive psychology and cognitive neuroscience in police and forensic psychology. Reviews basic principles and their application in tactical, investigative, and courtroom contexts.

Units: 4

Course Typically Offered:

PSYCH 128 - Cognitive Psychology

Prerequisite: 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 129 - Mind, Brain and Memory

Prerequisite: Psychology major status or permission of instructor
Exploration of the mind from a contemporary scientific perspective, emphasizing memory processes and cognitive neuroscience. Topics include self, memory, brain processing, emotions, drugs, spirituality, and neuroimaging under the overarching theme of how the brain

changes itself. (Formerly PSYCH 120T)

Units: 4

Course Typically Offered: Spring

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 133 - Neuropsychology

Prerequisite: Psychology major status or permission of instructor
This course provides a detailed study of brain structure and function from a clinical perspective to understand neurological and psychiatric disorders. Major topics include functional neuroanatomy, neuropathology, and principles of neuropsychological assessment and diagnosis.

Units: 4

Course Typically Offered: Fall, Spring

PSYCH 136 - Behavioral Psychology

Introduction to the principles of behavior from the behaviorist perspective. Includes operant and respondent conditioning and the application of behavioral principles to animal and human behavior.

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

PSYCH 143 - Intermediate Computer-based Statistical Analysis

Prerequisite: 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 multivariate 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

Prerequisite: 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 151 - Health Psychology

Prerequisite: 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.

Units: 3

PSYCH 152 - Stereotypes, Prejudices and Discrimination

Prerequisite: Psychology major or minor status or permission of instructor
Cognitive and affective bases of stereotyping, prejudice, and discrimination. Includes past and present forms of prejudice, individual differences, the experience of discrimination, and reducing stereotyping, prejudice, and discrimination.

Units: 4

Course Typically Offered: Fall, Spring

PSYCH 154 - Personality

Prerequisite: 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

Prerequisite: 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.

Units: 4

PSYCH 157 - Evolutionary Psychology

Prerequisite: Psychology major or minor status or permission of instructor
Theories of natural and sexual selection applied to the understanding of human behavior. Topics include personality, mate selection, social status, war, morality, and religion. (Formerly Psych 150T.)

Units: 4

Course Typically Offered: Fall, Spring

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** for a maximum of 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

Prerequisite: 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 sensitivity, and cultural self-awareness. Major topics include: world views, immigration and acculturation, stereotyping, prejudice, racism, privilege, cultural identity development, health disparities, and multicultural competence.

Units: 4

PSYCH 164 - Movies and Mental Illness

Prerequisite: Psychology major status or permission of instructor
Students use movies about mental illness as case studies as they learn to recognize symptoms of mental illness and think critically about aspects of movies which influence attitudes toward people with mental illness. They demonstrate media literacy and multimedia communication skills in a culminating movie analysis project.

Units: 4

Course Typically Offered: Fall, Spring

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** for a maximum of 12 units.

PSYCH 171S - Community Mental Health

Prerequisite: Psychology major or minor; PSYCH 10, PSYCH 42, and PSYCH 144 with a C grade or better; Non-Psychology major permission of instructor
Treatment approaches and systems of support for substance use problems, mental health conditions, and trauma. Data based decision making to develop policies and evaluate programs. Students work in a community-based mental health organization. S sections include a service-learning requirement.

Units: 4

Course Typically Offered: Fall, Spring

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.

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.

Units: 3-4

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:

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

Prerequisite: 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

Prerequisite: 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 179I - Supervised Field Experience

Prerequisite: 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

Prerequisite: 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** for a maximum of 12 units.

PSYCH 181 - Organizational Behavior Management

Prerequisite: Psychology major or minor status or permission of instructor
Organizational behavior management (OBM) is a subfield of applied behavior analysis (ABA) that focuses on behavior in the workplace and in other organizations. This course covers the use of behavioral principles to analyze and change both individual behavior and organizational practice to help organizations achieve their goals. (Formerly PSYCH 170T)

Units: 4

Course Typically Offered: Spring

PSYCH 182 - History and Systems

Prerequisite: senior standing or permission of instructor; Psychology Major or Minor status; 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

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.

Units: 1-3

Course Typically Offered: Spring

PSYCH 184A - Community Intervention & Behavior Support

Prerequisite: 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.

Units: 3

PSYCH 184B - Community Intervention & Behavior Support

Prerequisite: 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.

Units: 3

PSYCH 190 - Independent Study

See Academic Placement. Approved for RP grading.

Units: 1-3 **Repeatable** for a maximum of 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

Prerequisite: permission of instructor
May be repeated with different topics. Seminars in development and genetic psychology, special topics for particular age ranges and problem areas. May include lab hours

Units: 2-4 **Repeatable** for a maximum of 15 units.

PSYCH 201 - First Semester Graduate Experience

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: 1

PSYCH 202 - Second Semester Graduate Experience

Development of a focused literature review that motivates a particular hypothesis. Computing and organizational skills related to development of proposals.

Units: 1

PSYCH 204 - Developmental Psychopathology

This course is designed to provide students with an introduction to childhood psychopathology and clinical diagnoses. Students will learn to recognize and conceptualize developmental psychopathology. The course will cover research regarding effective treatment.

Units: 3

PSYCH 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 theoretical 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** for a maximum of 14 units.

PSYCH 221 - Advanced Learning and Behavior

Prerequisite: 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 222 - Legal, Ethical & Professional Issues in Applied Behavior Analysis

This course will cover ethical, legal, and professional issues for practitioners and researchers in the field of Applied Behavior Analysis.

Units: 3

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 224 - 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. This topic may not be repeated for credit.

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.

Units: 2-4 **Repeatable** for a maximum of 15 units.

PSYCH 235 - Philosophy in Applied Behavior Analysis

This course will cover the philosophical basis of the science of behavior analysis, including differing branches of philosophical thought related to behavior analysis, current philosophical disputes in behavior analysis, and examinations of how the philosophy affects real-world applications.

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** for a maximum of 15 units.

PSYCH 244A - Measurement, Research Methods & Statistics

Prerequisite: 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 - Statistics and Analysis Tools Competency

Prerequisite: 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: 1

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 for a maximum of 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 for a maximum of 15 units.

PSYCH 267 - Internship in School Psychology

Prerequisite: PSYCH 284, PSYCH 285, PSYCH 288, and permission of instructor
University and school-based supervised internship in school psychology.

Units: 3-6 Repeatable for a maximum of 12 units.

PSYCH 268 - Practicum in Applied Behavior Analysis

Prerequisite: PSYCH 288 and permission of instructor

University and site-based supervision of practice in applied behavior analysis. CR/NC grading only.

Units: 1 Repeatable for a maximum of 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 for a maximum of 15 units.

PSYCH 271 - Behavioral Intervention and Consultation

This course is designed to teach students about the application of principles used by behavior analysts to train, supervise, and consult with direct care staff 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 principles in introductory psychology. Course may be repeated for maximum of 4 units credit. CR/NC grading only.

Units: 1 Repeatable for a maximum of 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

Prerequisite: 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 280 - Counseling Techniques for School Psychologist

This course provides a foundation for basic counseling skills with children and youth in school settings. Primary foci include relevant child and adolescent development, building therapeutic relationships, learning and applying basic counseling models and skills with children and youth.

Units: 3

PSYCH 281 - Group Counseling in 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, and self-esteem counseling. CR/NC grading only.

Units: 2 **Repeatable** for a maximum of 12 units.

Course Typically Offered: Spring

PSYCH 282 - Cognitive and Behavior Therapy

Prerequisite: 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.

Course 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** for a maximum of 12 units.

PSYCH 284 - Assessment of Intellectual Abilities

Prerequisite: 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.

Course 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 prescriptive and rehabilitative recommendations in case studies.

Course 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

Prerequisite: enrollment in the EDS in Psychology program
University and school based supervision of practice in school psychology. CR/NC grading only.

Units: 1-2 **Repeatable** for a maximum of 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. Approved for RP grading.

Units: 1-3 **Repeatable** for a maximum of 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: 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: 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 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.

Units: 3

Course Typically Offered:

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.

Units: 2

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

GE Area/Graduation Requirement: GE Breadth E

Exploration of the social, psychological, and physiological implications of experiential learning and personal growth using experiences based in the natural environment. Dynamics of identifying personal interests and skills. Discovering resource-based learning opportunities in leisure appropriate across the life stages.

Units: 3

Course Typically Offered: Fall, Spring

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.

Course Fee: 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.

Course Fee: CSU liability insurance fee, \$8

Units: 3

Course Typically Offered: Spring

RA 107 - Correctional Recreation Programming

This course reviews the development of recreation in the prison system and introduces the coordination of recreation programs in the prison. Students will gain knowledge and application to develop correctional recreation programs for inmate participation.

Units: 3

Course Typically Offered: Fall

RA 109 - Correctional Recreation Administration

Correctional Recreation Supervisors manage, lead, train, counsel, and discipline. Supervisors develop and manage the recreation program in a correctional environment. Students will gain knowledge and skills to complete the duties and responsibilities for effective management.

Units: 3

Course Typically Offered: Fall

RA 113 - Programming for Youth At-Risk

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 have developed successful program approaches.

Units: 3

Course Typically Offered:

RA 115 - Community Placements in Leisure Settings

Corequisite: RA 113, RA 117, RA 146, or RA 150

Service oriented course providing opportunities 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.

Course Fee: CSU liability insurance fee, \$8

Units: 1-3 **Repeatable** for a maximum of 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, community 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.

Additional Activity: field trips
Course Fee: 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: Fall

RA 121 - Community and Non-Profit Recreation Services

Prerequisite: RA 55
Prerequisite or Corequisite: RA 55 (for Rec Admin 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.

Additional Activity: field trips
Units: 3

Course Typically Offered: Fall

RA 125 - Diversity and Inclusive Practices in Recreation Therapy and Recreation

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, RA 60 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.

Units: 4

Course Typically Offered: Fall

RA 130 - International Tourism: Multicultural Issues and Impacts

GE Area/Graduation Requirement:
Multicultural/International

Prerequisite: GE Foundation and Breadth 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

RA 131 - Foundations of Special Events and Tourism

Prerequisite: RA 55
Historical and philosophical foundations of tourism, chamber of commerce, special events, downtown and main street organizations. Review of selected tourism and special event organizations including organizational structure, funding, legal base, and current trends.

Units: 3

Course Typically Offered: Fall

RA 133 - Recreation and Parks Facilities Planning and Operations

Prerequisite: RA 77S for Rec Admin majors only
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.

Additional Activity: field trips
Units: 3

Course Typically Offered: Spring

RA 135 - Recreation, Parks, and Tourism Marketing

Prerequisite: RA 77S for Rec Admin 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:

RA 139 - Research and Evaluation in Recreation, Parks, and Tourism

Prerequisite or Corequisite: RA 128 and UDWR

Overview of research and evaluation methods as applied to recreation, parks and tourism services.

Units: 3

Course Typically Offered: Spring

RA 142 - Foundations of Recreation Therapy

Prerequisite: RA 55 and RA 125
Historical review and future outlook of recreation therapy; 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 Recreation Therapy

Prerequisite: RA 142
Application of recreation therapy methods including assessment, program design, documentation, and evaluation.

Units: 3

RA 144B - Facilitation Techniques in Recreation Therapy

Prerequisite: RA 142 with a C grade or better.
Prerequisite or Corequisite: RA 144A

Practical experiences in applying recreation therapy intervention methods.

Units: 3

RA 145 - Environmental Interpretation

Philosophies, concepts, practical techniques for environmental interpretation. Introduces students, through lectures, class activities, and projects, to individuals and agencies involved in EI. Roles of environmental education and persuasive communication in promoting environmental attitudes and behaviors are emphasized. (Formerly RA 192T)

Units: 3

Course Typically Offered: Fall

RA 146 - Adventure Based Programming

Prerequisite: RA 55 and RA 80 for Rec Admin majors

Explore adventure based programming skills through outdoor pursuits and experiential activities on the E.D.G.E. Challenge Course.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Course Fee: Students will incur expenses related to required field trips; CSU liability insurance fee, \$8

Units: 3

Course Typically Offered: Fall

RA 148 - Process and Principles in Recreation Therapy

Prerequisite or Corequisite: RA 144A, RA 144B with a C grade or better.

Designing and evaluating recreation therapy programs for healthcare and community settings. Practical program experience required.

Units: 3

RA 149 - Trends and Issues in Recreation Therapy

Prerequisite or Corequisite: RA 148

In-depth examination of contemporary professional issues and their relationship to current and future development of recreation therapy services.

Units: 3

RA 150 - Sports and Entertainment Facility Management

Prerequisite: RA 55 is recommended for Rec Admin 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

Prerequisite: RA 150; RA 135 or MKTG 100S

Corequisite: RA 154

Booking, promotion and box office operations techniques for sports and entertainment facilities and their events.

Units: 3

Course Typically Offered:

RA 154 - Sports and Entertainment Facility Operations

Prerequisite: RA 150; RA 135 or MKTG 100S

Corequisite: 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.

Weekly Lecture Hours: 3

Weekly Lab/Activity Hours: 2

Additional Activity: field trips

Units: 4

Course Typically Offered:

RA 156 - Crowd Safety for Sports and Entertainment

An examination of crowd science and risk analysis tools and their applicability for planning events and managing sports and entertainment venues including arenas, stadiums, and other public assembly venues such as those hosting music festivals. Crowd safety, crowd risk analysis and practical application are also covered. (Formerly RA 192T)

Units: 3

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 184I - Internship in Recreation, Parks, Tourism and Recreation Therapy

Prerequisite: Completion of all major, general education, and university graduation requirements

Supervised, directed full-time experience with a nonprofit, public, or commercial recreation or recreation therapy agency. Individual development in administration, supervision, program planning, and public relations. (It is recommended before internship that students have the equivalent of 1,000 hours of recreation related experience).

Course Fee: CSU liability insurance fee, \$8

Units: 12

Course Typically Offered: Fall, Spring

RA 190 - Independent Study

See Academic Placement. Approved for RP grading.

Units: 1-3 Repeatable for a maximum of 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** for a maximum of 8
units.

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: \$45

Units: 1

Course Typically Offered:

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.
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. CR/NC
grading only.

Course Fee: course fee, \$75

Units: 1

REC 84 - Orienteering

Fundamental skills and knowledge for traveling
outdoors by map and compass, and by
knowledge of natural features. 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. CR/NC grading only.

Course Fee: \$40

Units: 1

Course Typically Offered:

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.
CR/NC grading only.

Additional Activity: field trips
Course Fee: \$47

Units: 1

Course Typically Offered:

REC 88 - Rock Climbing

Basic skills and knowledge of rock climbing
including history, trends, equipment, climbing
technique, top roping, knot tying, rappelling,
training, safety, and environmental issues.
CR/NC grading only.

Units: 1

Course Typically Offered:

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

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

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 201 - Professional Identity and Ethics in Counseling

This seminar provides an overview of the
practice and profession of counseling. Areas to
be examined include the historical, theoretical,
legal, ethical and philosophical basis of
counseling; supervision, professional
organizations, credentials and trends of
professional counselors. The course includes
lectures, class discussions, guest lecturers, visits
to outside facilities, reading and reporting on
professional literature and experiential
exercises.

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.

Units: 3

REHAB 204 - Medical & Psychosocial Aspects of Disability, Chronic Illness and Mental Health

The seminar consists of an analysis of various anatomical systems including discussions on terminology, treatment etiology, functional limitations, and psychosocial and vocational implications of physical, psychological and neurological disorders.

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 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 211 - Introduction to Clinical Mental Health Counseling

This course provides a historical overview of the Clinical Mental Health Counseling (CMHC) field. Current trends, professional issues, and other areas relevant to CMHCs will be examined. Roles and responsibilities of CMHCs across various settings will be explored. Professional organizations, preparation standards, and credentialing of CMHCs will be discussed.

Units: 3

REHAB 237 - Clinical Rehabilitation and Mental Health Services Case Management

Seminar in methods for facilitating client rehabilitation including interviewing, case recording, plan development, ethical practices; cultural competency; role and function of rehabilitation counseling, including history and legislation; career development; assessment; assistive technology; evidenced-base practices; and clinical supervision.

Course Fee: CSU liability insurance fee, \$8

Units: 3

REHAB 238 - Clinical Rehabilitation and Mental Health Counseling Practicum

Prerequisite: CLRC majors: COUN 200, COUN 220; REHAB 201, REHAB 204, REHAB 237 CMHC majors: COUN 200, COUN 220; REHAB 201, REHAB 245, REHAB 250 Supervised experience in the application of counseling techniques in rehabilitation and counseling environments. Designed to provide direct, face-to-face counseling experiences with clients to develop students' basic communication, counseling and documentation competencies. Students must carry professional liability insurance.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Units: 3

REHAB 239 - Internship in Clinical Rehabilitation & Mental Health Counseling

Prerequisite: COUN 200, COUN 202, REHAB 201, REHAB 211, REHAB 237, REHAB 238, or permission of instructor Full-time, supervised field placement in one of a variety of settings including case responsibilities. Approved for RP grading and CR/NC grading only.

Course Fee: CSU liability insurance fee, \$8

Units: 9

REHAB 245 - Treatment Planning and Interventions

Prerequisite or Corequisite: COUN 232

Exploration of biological, psychological, social and environmental factors involved in the vulnerability and resilience of mental health. Case conceptualization, assessment and treatment planning using culturally sensitive evidence-based practices in mental illness service delivery.

Units: 3

Course Typically Offered:

REHAB 250 - Professional Counseling Practices

Prerequisite or Corequisite: REHAB 211

Explores the evolving professional and cultural climate for mental health professionals as well as case management, community involvement and advocacy. Examines principles of mental health recovery oriented care and methods of service delivery.

Units: 3

Course Typically Offered:

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.

Units: 3

REHAB 264 - Rehabilitation 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.

Units: 3

REHAB 265 - Rehabilitation for Substance Use Disorders

Introductory seminar covering patterns and extent of substance abuse, models of addiction, assessment and diagnosis, legal ramifications, physiological effects, characteristics of drugs, treatment approaches, prevention and ethical issues. This course includes readings, lectures, presentations, class discussions and student activities.

Units: 3

REHAB 268A - Advanced Career Placement & Counseling: Job Retention

Prerequisite: REHAB 237, COUN 200, COUN 220 Supervised application of case management, job development, placement, retention, and advanced counseling principles. Students work holistically with consumers and agencies to develop and implement individualized service

plans with primary emphasis on vocational goals through counseling experiences. Liability insurance required.

Weekly Lecture Hours: 1
Weekly Lab/Activity Hours: 2
Units: 3

REHAB 268B - Advanced Career Placement & Counseling - Workability IV

Prerequisite: REHAB 237, COUN 200, COUN 220
Supervised application of case management, job development, placement, retention, and advanced counseling principles. Students work holistically with Department of Rehabilitation referrals to develop and implement individualized service plans with primary emphasis on vocational goals through counseling experiences. Liability insurance required.

Weekly Lecture Hours: 1
Weekly Lab/Activity Hours: 2
Units: 3

REHAB 268C - Advanced Career Placement & Counseling: Ticket to Work

Prerequisite: REHAB 237, COUN 200, COUN 220
Supervised practical application of case management, job development, placement, retention, and advanced counseling principles. Students work holistically with Social Security Administration referrals to develop and implement individualized service plans with primary emphasis on vocational goals through counseling experiences. Liability insurance required.

Weekly Lecture Hours: 1
Weekly Lab/Activity Hours: 2
Units: 3

REHAB 268D - Advanced Career Placement & Counseling: Transition

Prerequisite: REHAB 237, COUN 200, COUN 220
Supervised practical application of case management and job development, placement, retention, and advanced counseling 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 for a maximum of 12 units.

REHAB 290 - Independent Study

See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3 Repeatable for a maximum of 6 units.

REHAB 298 - Project

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 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: 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

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 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

REHAB 299C - Thesis Continuation

Prerequisite: REHAB 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

Sociology

SOC 1 - Principles of Sociology

GE Area/Graduation Requirement: GE Breadth D2

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.

Units: 3

SOC 1S - Principles of Sociology

GE Area/Graduation Requirement: GE Breadth D2

Introduction to the principles and theoretical 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.

Units: 3

Course Typically Offered:

SOC 3 - Critical Thinking About Society

GE Area/Graduation Requirement: GE Foundation A3

Prerequisite: SOC 1 with a C grade or better 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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2

Units: 3

Course Typically Offered: Fall, Spring

SOC 3S - Critical Thinking About Society

GE Area/Graduation Requirement: GE Foundation A3

Prerequisite: SOC 1 with a C grade or better 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.

Units: 3

Course Typically Offered:

SOC 111 - Sociology of Race and Ethnicity

GE Area/Graduation Requirement: Multicultural/International

Prerequisite: GE Foundation and Breadth 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.

Units: 3

Course Typically Offered:

SOC 121 - Sociology of Terrorism and Genocide

Prerequisite: junior standing
Understanding conditions that produce and sustain terrorism and genocide provides insight to effectively mitigate and prevent these phenomena. Via historical and contemporary case studies, the roots and impacts of terrorism and genocide are investigated by applying sociological and social-psychological frameworks. (Formerly SOC 150T)

Units: 3

Course Typically Offered: Spring

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

SOC 125 - Statistics for the Social Sciences

Prerequisite: GE Foundation B4; SOC 1 or SOC 1S and SOC 3 or SOC 3S all with a C grade or better; open only to 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.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Units: 4

Course Typically Offered:

SOC 130W - Contemporary Social Issues

Prerequisite: GE Foundation A2 with a C grade or better; SOC 1 or SOC 1S and SOC 3 or SOC 3S with a C grade or better 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

Course Typically Offered:

SOC 130WS - Contemporary Social Issues

Prerequisite: GE Foundation A2 with a C grade or better; grade 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.

Units: 4

Course Typically Offered: Fall, Spring

SOC 131 - Sociology of Sex and Gender

GE Area/Graduation Requirement: GE Integration ID

Prerequisite: GE Foundation, Breadth D and PLSI-2

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.

Units: 3

SOC 132 - Women and Work

(SOC 132 same as WGSS 132.) An examination of women and work in contemporary society including housework, labor force participation, employment in various occupations, and career planning.

Units: 3

SOC 133 - Queering Migration: Sexuality, Gender, and Race in Migration and Borders

(SOC 133 same as WGSS 128) This course explores migration, transnationalism, and border crossings through critical queer and critical race perspectives. Throughout the course, we will investigate the concept of queering borders in which the categories of identity and subjectivity are deconstructed and reformed as individuals situate themselves in multiple locations physically, symbolically, and discursively. Students will gain a thorough understanding of the intersections of race, gender, and sexuality in regards to borders, transnationalism, and migration.

Units: 3

Course Typically Offered: Fall

SOC 142 - Sociology of Popular Culture

GE Area/Graduation Requirement: Multicultural/International

Prerequisite: GE Foundation and Breadth 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.

Units: 3

SOC 143 - Deviance and Control

GE Area/Graduation Requirement: GE Integration ID

Prerequisite: G.E. Foundation, Breadth Area D and PLSI-2

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.

Units: 3

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

Course Typically Offered: Fall

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 for a maximum of 9 units.

SOC 151 - Social Classes and Inequality

Prerequisite: SOC 1 or SOC 1S; SOC 3 or SOC 3S, SOC 125; SOC 130W or SOC 130WS all with a C grade or better; open only to Sociology majors and minors

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:

SOC 152 - Classical Sociological Theory

Prerequisite: SOC 1 or SOC 1S; SOC 3 or SOC 3S; SOC 125; and SOC 130W or SOC 130WS all with a C grade or better; open only to Sociology majors and minors
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:

SOC 153 - Sociological Theory

Prerequisite: SOC 1 or SOC 1S; SOC 3 or SOC 3S; SOC 125; and SOC 130W or SOC 130WS all with a C grade or better; open only to Sociology majors and minors
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:

SOC 157 - Social Change

Analysis of directions, patterns, and processes of social and cultural change.

Units: 3

Course Typically Offered: Spring

SOC 158 - Environmental Sociology

GE Area/Graduation Requirement: GE Integration IB

Prerequisite: GE Foundation and Breadth Areas B and D

Explores historical and contemporary patterns of human evolution that have created ecological problems; why harmful effects of pollution disproportionately affect disadvantaged groups; and the social movements that have mobilized to protect ecosystems and human communities from environmental degradation. (Formerly SOC 150T)

Units: 3

Course Typically Offered: Fall

SOC 159 - The Sociology of Food

Explores the social, political, economic, and ecological processes shaping people's relationship to food. Focuses on the role of culture and socialization in shaping our food practices, how food practices are gendered, raced, and classed, and the numerous inequities shaping the food system.

Units: 3

Course Typically Offered: Fall, Spring

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

Prerequisite: SOC 1, SOC 3, SOC 125, and SOC 130W
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

GE Area/Graduation Requirement: GE Integration ID

Prerequisite: GE Foundation, Breadth D and PLSI 2

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.

Units: 3

Course Typically Offered: Fall, Spring

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

SOC 167 - Sociology of Childhood

Analyzes the historical and contemporary social forces shaping perceptions of childhood as a distinct stage in the life course and children's social experiences. Focuses on agents of children's socialization, inequalities affecting childhood, and social problems facing children.

Units: 3

SOC 168 - Interpersonal Relationships

Exploration of the basic elements of interpersonal relationships including listening, disclosure, feedback, empathy.

Units: 3

Course Typically Offered: Fall

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** for a maximum of 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.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Units: 3

SOC 174 - Computer Data Analysis

Prerequisite: SOC 1 or SOC 1S and SOC 125 for Sociology majors and minors must be completed prior to enrollment

An introduction to the use of widely utilized computer packages for analyzing quantitative data (e.g., SPSS) and/or qualitative data (e.g., NVIVO) in the social sciences. Prepares students for academic and empirical research. No prior knowledge of computers is necessary.

Units: 3

Course Typically Offered: Spring

SOC 175 - Quantitative Research Methods in Sociology

Prerequisite: SOC 1 or SOC 1S; SOC 3 or SOC 3S; SOC 125; and SOC 130W or SOC 130WS all with a C grade or better; open only to Sociology majors and minors

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:

SOC 176 - Qualitative Research Methods in Sociology

Prerequisite: SOC 1 or SOC 1S; SOC 3 or SOC 3S; SOC 125; and SOC 130W or SOC 130WS all with a C grade or better; open only to Sociology majors and minors

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:

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 185I - Field Experience in Sociology

Prerequisite: junior/senior standing in Sociology; completion of Tier 1 courses; and a 2.75 minimum cumulative GPA
Individually-planned field experience relating sociology coursework with applied community-based experience. CR/NC grading only.

Weekly Lab/Activity Hours: 3

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 187SE - 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 188S - Effective Administration of Volunteer Programs

Designed to prepare students to plan for, facilitate, and create organizational cultures conducive to community engagement and volunteer participation. Skill-building in working collaboratively to build projects that engage citizens in meaningful, goal-directed, mission-related work that meets an identified need. S sections include a service-learning requirement. (Formerly SOC 150T)

Units: 3

Course Typically Offered: Fall

SOC 189S - Engaging Underrepresented Populations as Volunteers

This course focuses on methodologies of effective volunteer practice in engaging "underrepresented populations," including but not limited to persons with disabilities, persons formerly incarcerated, persons who have experienced foster-care, persons over age 65, LGBTQI persons, undocumented persons, and recently-retained veterans. S sections include a service-learning requirement. (Formerly SOC 150T)

Units: 3

Course Typically Offered: Spring

SOC 190 - Independent Study

See Academic Placement --Independent Study. Approved for SP grading.

Units: 1-3 **Repeatable** for a maximum of 6 units.

Course Typically Offered: Fall, Spring

Spanish

SPAN 1A - Elementary Spanish

No credit if taken after SPAN 1B, SPAN 2A, SPAN 2B, SPAN 3, SPAN 4A, SPAN 4B, and SPAN 5. Beginning course in conversational and written Spanish. Emphasis on reading, writing, listening, speaking, and culture of Spanish-speaking peoples.

Units: 4

Course Typically Offered: Fall, Spring

SPAN 1B - Elementary Spanish

GE Area/Graduation Requirement: GE Breadth C2

Prerequisite: GE Foundation A2; SPAN 1A recommended or permission of instructor
No credit if taken after SPAN 2A, SPAN 2B, SPAN 3, SPAN 4A, SPAN 4B, and SPAN 5. Second semester course in conversational and written Spanish.

Units: 4

Course Typically Offered: Fall, Spring

SPAN 2A - Spanish for Communication

GE Area/Graduation Requirement: GE Breadth C2

Prerequisite: GE Foundation A2
No credit if taken after SPAN 2B, SPAN 3, SPAN 4A, SPAN 4B, and SPAN 5. Second year course that emphasizes speaking and reading skills.

Units: 3

Course Typically Offered:

SPAN 2B - Spanish for Communication

GE Area/Graduation Requirement: GE Breadth C2

Prerequisite: GE Foundation A2
No credit if taken after SPAN 3, SPAN 4A, SPAN 4B, and SPAN 5. Second year course that emphasizes speaking and reading skills.

Units: 3

Course Typically Offered: Fall, Spring

SPAN 3 - Reading and Writing

GE Area/Graduation Requirement: GE Breadth C2

Prerequisite: GE Foundation A2; SPAN 2A or SPAN 2B recommended
No credit if taken after SPAN 4A, SPAN 4B, and SPAN 5. Opportunity to increase reading and writing skills in preparation for upper-division coursework in Spanish.

Units: 3

Course Typically Offered:

SPAN 4A - Spanish for the Bilingual Student

GE Area/Graduation Requirement: GE Breadth C2

Prerequisite: GE Foundation A2
No credit if taken after SPAN 4B and SPAN 5. 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.

Units: 3

Course Typically Offered:

SPAN 4B - Spanish for the Bilingual Student

GE Area/Graduation Requirement: GE Breadth C2

Prerequisite: GE Foundation A2; SPAN 3 recommended or permission of instructor
No credit if taken after SPAN 5. 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.

Units: 3

Course Typically Offered:

SPAN 5 - Spanish for Conversation

Prerequisite: 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** for a maximum of 4 units.

SPAN 10 - Spanish in Context

Prerequisite: 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: Spring

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** for a maximum of 12 units.

SPAN 112 - Reader's Theater in Spanish

Prerequisite: 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

Prerequisite: 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 114A - Essentials of Medical Interpreting

Prerequisite: SPAN 3 or SPAN 4B recommended

This course is an introduction to the theory and practice of medical interpreting. It introduces the field of interpreting, interpreter roles, interpreting modes, interpreting contexts, medical terminology, cognitive processes associated with interpreting, professional standards of practice, code of ethics, employment opportunities, and working conditions.

Units: 3

Course Typically Offered: Fall, Spring

SPAN 114B - Advanced Medical Interpreting

Prerequisite: SPAN 114A

Provides a more advanced interpreting practice in various medical contexts, focusing on cognitive processes associated with interpreting, memory skills, note-taking, self-monitoring, professional identity, professional development, employment opportunities, medical terminology, and certification.

Units: 3

Course Typically Offered: Fall, Spring

SPAN 115A - Basic Principles of Translation

Prerequisite: SPAN 3 or SPAN 4B recommended.

Addresses specific problems of Spanish to English and English to Spanish translation, with emphasis on idiomatic expressions. It includes specialized vocabulary from the fields of medicine, literature, journalism, technology, and others.

Units: 3

SPAN 115B - Advanced Translation

Prerequisite: SPAN 115A

Students will continue to develop their translation skills, further their knowledge of resources, apply different translation techniques through a variety of authentic hands on

translation projects, both sample and commissioned by actual clients.

Units: 3

Course Typically Offered: Fall, Spring

SPAN 116A - Essentials of Legal Interpreting

Prerequisite: SPAN 3 or SPAN 4B recommended.

Introduction to the profession of legal interpreting from English into Spanish and vice versa. Topics include legal terminology, the role of the interpreter, code of ethics, standards of practice, interpreting laws, and multicultural interactions.

Units: 3

SPAN 116B - Advanced Legal Interpreting

Prerequisite: SPAN 116A

This course builds on the existing knowledge of theory and practice of legal interpreting. Topics include advanced interpreting practice, code of ethics and professional responsibility, current trends in the field of professional legal interpreting, interpreter qualifications and certification, note-taking, and memory building skills.

Units: 3

Course Typically Offered: Fall, Spring

SPAN 117 - Advanced Conversation and Reading

Prerequisite: 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

Prerequisite: 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 120 - Media Writing in Spanish

Prerequisite: MCJ 2, SPAN 117, and SPAN 119

Gathering, writing and editing news for distribution via broadcast and online news media outlets, creating professional communication for specific audiences.

Units: 3

SPAN 121A - Composition A

Prerequisite: 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 analyzing a literary text by written means.

Units: 3

Course Typically Offered: Fall, Spring

SPAN 124 - Oral and Written Expression

Prerequisite: 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: Spring

SPAN 125 - Hispanic Cultural Productions (taught in Spanish)

GE Area/Graduation Requirement: GE Integration IC

Prerequisite: GE Foundation and Breadth C; SPAN 3 or SPAN 4B recommended
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.

Units: 3

Course Typically Offered: Fall, Spring

SPAN 129 - Mexican Culture (taught in Spanish)

GE Area/Graduation Requirement: GE Integration IC

Prerequisite: GE Foundation and Breadth C; SPAN 2B, or SPAN 3, or SPAN 4B recommended
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.

Units: 3

Course Typically Offered: Fall, Spring

SPAN 130 - Introduction to Spanish Linguistics

Prerequisite: 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

Prerequisite: 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.

Units: 3

Course Typically Offered: Fall, Spring

SPAN 137 - Applied Spanish Linguistics

Prerequisite: 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

Prerequisite: 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

Prerequisite: 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:

SPAN 142 - Introduction to Spanish Literature

Prerequisite: 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:

SPAN 143 - Introduction to Spanish-American Literature

Prerequisite: 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:

SPAN 145 - Mexican Literature

Prerequisite: 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

Prerequisite: 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

Prerequisite: SPAN 140 or permission of instructor

Reading and in-depth analysis of the works of major Hispanic authors and/or themes.

Units: 3 **Repeatable** for a maximum of 6 units.

SPAN 149 - The Golden Age

Prerequisite: 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

Prerequisite: 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 Gasset, Lorca, Jose Hierro, and other authors.

Units: 3

Course Typically Offered: Fall

SPAN 165 - Modernismo - 1950

Prerequisite: SPAN 140, SPAN 142, and 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 166 - Spanish American Poetry and the Political Imagination

Prerequisite: SPAN 140, SPAN 142, and SPAN 143, or permission of instructor.

Examination of relation between Spanish American poetry and politics in Spanish Civil War, 20th century Latin American political conflicts, and contemporary culture in the 21st century. Intended for upper division students in Spanish major. Expect 6 hours of study a week. (Formerly SPAN 148T)

Units: 3

SPAN 170 - Senior Seminar in Spanish Studies

Prerequisite: 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.

Units: 3

Course Typically Offered: Fall, Spring

SPAN 190 - Independent Study

See Academic Placement -- Independent Study. Approved for RP grading.

Units: 1-3 **Repeatable** for a maximum of 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: Spanish major or permission of instructor

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** for a maximum of 6 units.

SPAN 219T - Topics in Creative Writing

Prerequisite: Spanish major or permission of instructor

Topics in advanced creative writing in Spanish including poetry, fiction and/or non-fiction.

Units: 3 **Repeatable** for a maximum of 9 units.

SPAN 220 - Golden Age Drama

Prerequisite: Spanish major or permission of instructor

In-depth study of a variety of dramatic works by male and female authors from 16th and 17th century-Spain. Includes discussion of works,

lectures, and written research.

Units: 3

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, and the role of travel, memory, orality, and writing in the socialization of youth.

Units: 3

SPAN 228 - Contemporary Spanish American Poetry and Social Change

Prerequisite: Spanish major or permission of instructor

This course will explore the ways in which literature and political theory are in dialogue, but with an emphasis on the ways that Latin American poets, since the start of the 20th century and until today, have often pointed to the limits of the political imagination. We will pay special attention to different revolutionary moments in various countries with the goal of tracking the exhaustion of modern theories of historical change. We will study the work of Neruda, Vallejo, Pizarnik, among others.(Formerly SPAN 218T)

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 246 - Contemporary Mexican Literature

Prerequisite: Spanish major or permission of instructor

In-depth study of representative works of Mexican literature from the 1980's to the present. Discussion of issues such as neoliberalism, migration, drug trafficking, violence, gender inequality, and cultural representation in Mexico.

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 248 - The Literature of the Crack Generation

Prerequisite: Spanish major or permission of instructor

This seminar offers an in-depth study of contemporary Mexican literature works belonging to the aesthetic movement known as Crack Generation, from their manifesto to their key works. The main discussion themes will be the fragmentation of traditional identities and imaginaries.

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, ethical, 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

Prerequisite: 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 representative 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** for a maximum of 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: 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: SPAN 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

Special Education

SPED 111 - General Education and Special Education Clinical Experience

Prerequisite: admission to the Education Specialist or Dual Multiple Subject + Education Specialist Program.

Corequisite: SPED 120, CI 100 or CI 149 and SPED 145

SPED 111 is the first of three supervised clinical experiences [21 hours per week] preparing Teacher Candidates pursuing the Education Specialist Credential or Multiple Subject and Education Specialist Credential to teach in culturally and linguistically diverse general education classrooms.

Units: 3

Course Typically Offered: Fall, Spring

SPED 120 - Introduction to Special Education

Prerequisite: EHD 50

Introduction to identification, characteristics, theories, curriculum, and instruction for students with mild to severe disabilities, legislative guidelines, nondiscriminatory assessment, parental involvement, and foundation in special education. Includes 15 hours of observation/participation.

Units: 3

Course Typically Offered: Fall, Spring

SPED 121 - Teaching Students with Special Needs in the Secondary General Education Setting

Corequisite: 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.

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

Prerequisite: 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.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 2

Units: 3

Course Typically Offered: Fall, Spring

SPED 136 - Assessment, Curriculum Design and Instruction for Students with Mild/Moderate Disabilities

Prerequisite: completion of semester 1 coursework

Corequisite: 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 137 - Curriculum and Instruction for Students with Mild/Moderate and Extensive Learning Needs

Prerequisite: admission to the Education Specialist Credential Program and SPED 145

This course prepares candidates to design and deliver effective instruction and assessment for students with mild/moderate and extensive support needs using a knowledge base of strategies and interventions for students who are not responding to the current instructional environment, a focus on response to instruction, universal design for learning and evidence-based curricula.

Weekly Lecture Hours: 3

Weekly Lab/Activity Hours: 2

Units: 4

Course Typically Offered: Fall, Spring

SPED 145 - Special Education, Law and Ethics

Prerequisite: EHD 50, CI 100 and SPED 120

In this course, students will analyze federal, state, and local statutes, policies and case law which affect the funding and direction of special education programs particularly as related to the development and implementation of Individualized Education Programs (IEPs) for students with disabilities.

Units: 3

Course Typically Offered: Fall, Spring

SPED 146 - Assessment and Instruction for Students with Moderate/Severe Disabilities

Prerequisite: completion of semester 1 coursework

Corequisite: 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

Prerequisite: 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

Corequisite: SPED 137 and SPED 175 (MM), or SPED 176 (MS); 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.

Course Fee: CSU liability insurance fee, \$8

Units: 1-3

Course Typically Offered: Fall, Spring

SPED 171 - Initial Practicum in Mild/Moderate Disabilities

Prerequisite: completion of coursework in semester 1
Corequisite: 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:

SPED 172 - Initial Practicum in Moderate/Severe Disabilities

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:

SPED 173 - Initial Practicum in Mild/Moderate and Extensive Support Needs

Prerequisite: admission to the combined Education Specialist Mild/Moderate Support Needs and Extensive Support Needs Credentials Program; SPED 111 or permission of Program Coordinator
SPED 173 is the second supervised clinical experience in the combined Mild/Moderate Support Needs and Extensive Support Needs Credentials Program (21 hours clinical + 1 hour seminar). Teacher Candidates engage in experiences in the assigned clinical placement.

Units: 4

Course Typically Offered: Fall, Spring

SPED 175 - Final Practicum in Mild/Moderate Disabilities

Prerequisite: completion of all coursework in semesters 1, and 2
Corequisite: 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.

Course Fee: CSU liability insurance fee, \$8

Units: 6

SPED 176 - Final Practicum in Moderate/Severe Disabilities

Prerequisite: completion of all coursework in Semesters 1 and 2
Corequisite: 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.

Course Fee: CSU liability insurance fee, \$8

Units: 6

Course Typically Offered: Fall, Spring

SPED 177 - Practicum Seminar in Mild/Moderate and Moderate/Severe Disabilities

Prerequisite: completion of semesters 1, 2, and 3 coursework
Corequisite: 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 178 - Final Practicum in Mild/Moderate and Extensive Support Needs

Prerequisite: admission to the combined Education Specialist Mild/Moderate Support Needs and Extensive Support Needs Credentials Program; clearance from Office of Clinical Practice required prior to enrollment
Prerequisite or Corequisite: final phase courses or Program Coordinator permission

SPED 178 is the final supervised clinical experience in the combined Mild/Moderate Support Needs and Extensive Support Needs Credentials Program.

Units: 6

SPED 179 - Differentiated Instruction and Classroom Management

Prerequisite: CI 175, CI 176, EHD 178
Corequisite: EHD 170 or permission of 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

Prerequisite: 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 for a maximum of 12 units.

SPED 190 - Independent Study

See Academic Placement -- Independent Study.
Approved for RP grading.

Units: 1-3 Repeatable for a maximum of 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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
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)

Course Fee: 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)

Course Fee: 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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
Units: 3

SPED 219 - Effective Communication and Collaborative Partnerships

Corequisite: SPED 246 and SPED 175 (MM), or SPED 247 and SPED 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

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 implementation of pilot research and 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 and prescriptive interventions for those with social and personal behavior disorders.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
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.

Weekly Lecture Hours: 2
Weekly Lab/Activity Hours: 2
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

Prerequisite: completion of all required courses in semesters 1 and 2

Corequisite: SPED 175

This course prepares Education Specialist 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

Prerequisite: completion of all required courses in semesters 1 and 2

Corequisite: 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 258 - Differentiated Instruction in Inclusive Secondary Settings

This is a graduate-level differentiated instruction in inclusive secondary settings educational seminar for secondary educators. Graduates in this course will utilize research to make informed pedagogical and behavioral decisions regarding students with special needs.

Units: 3

Course Typically Offered: Spring

SPED 279 - Differentiated Instruction and Classroom Managagment

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

Prerequisite: 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** for a maximum of 12 units.

SPED 290 - Independent Study

See Academic Placement -- Independent Study.
Approved for RP grading.

Units: 1-3 **Repeatable** for a maximum of 6 units.

SPED 298 - Project

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 special education such as the development of courses of study, instructional manuals, teachers' guides, interventions programs, and computer software. An approved proposal is required for enrollment. Approved for RP grading.

Units: 4

SPED 298C - Project Continuation

Prerequisite: 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

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. 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: SPED 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

Special Programs

SPEC 100 - National Student Exchange

Units: 12

SPEC 105 - National Student Exchange

For National Student Exchange (NSE) program Plan A. Students pay their fees at the visiting campus.

Units: 12

SPEC 110 - Intrasystem Visitor

Units: 12

SPEC 115 - Panetta Institute Scholars

Panetta Institute Scholars

Units: 4-12

SPEC 120 - Intrasystem Concurrent

Units: 1-12

SPEC 125 - CSU CourseMatch

CSU CourseMatch

Units: 1-12

SPEC 130 - CSU International Programs

Units: 1-12

SPEC 140 - Sister International Exchange

Units: 1-12

SPEC 150 - USAC

Units: 1-12

SPEC 170 - Special Study Abroad Programs

Special Study Abroad Programs

Units: 1-12

Social Sciences Interdisciplinary

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. Fulfills lower division requirement for Global Awareness Certificates.

Units: 3

SSCI 101H - Social Science Honors I

Prerequisite: 75 units completed, 3.5 major and cumulative GPA; admission to Honors Program, permission of instructor
Prerequisite or Corequisite: pre-approved research methods course with minimum B grade

This course guides students in designing a research proposal for a Bachelor's thesis to be completed in the spring semester. Students will be introduced to academic research in the social sciences through guest research lectures by various College faculty. (Formerly SSCI 150T)

Units: 3

Course Typically Offered: Fall

SSCI 102H - Social Science Honors II

Prerequisite: SSCI 101H with an A grade, 3.5 major and cum GPA, completion of approved research methods course with minimum B grade, permission of instructor
In this course, students write an Honors thesis based on an approved research proposal and present it in a public symposium. Time is allotted for independent research and writing, periodic classroom meetings, and one-on-one consultations with course instructor and mentor. (Formerly SSCI 150T)

Units: 3

Course Typically Offered:

SSCI 110 - California Studies

GE Area/Graduation Requirement: GE Integration ID

Prerequisite: GE Foundation, Breadth D and PLSI 2
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.

Units: 3

Course Typically Offered: Fall, Spring

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 180 - Diversity in the U.S.

GE Area/Graduation Requirement: Multicultural/International

Prerequisite: GE Foundation and Breadth 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.

Units: 3

Course Typically Offered: Fall, Spring

SSCI 185I - 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

Social Work

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:

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 for a maximum of 15 units.

SWRK 123 - Social Welfare Policies and Programs

Prerequisite: SWRK 20 with a C grade or better; 2.5 minimum cumulative GPA and completion of lower division GE
Corequisite: SWRK 135 and SWRK 160
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:

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:

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 with a C grade or better; 2.5 minimum cumulative GPA and completion of lower division G.E.
Corequisite: SWRK 123 and SWRK 160
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

GE Area/Graduation Requirement:
Multicultural/International

Prerequisite: SWRK 20 passed with C grade and completion of lower-division G.E. requirements for Social Work undergraduate majors; no restrictions for any other majors
Cultural, economic, ethnic, social, and psychological considerations for helping members of groups who suffer oppressed status in our heterogeneous society.

Units: 3

Course Typically Offered:

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 with a C grade or better; 2.5 minimum cumulative GPA; completion of lower-division GE with C grade or better; Social

Work majors

Corequisite: SWRK 123 and SWRK 135
The development of professional identity in generalist social work practice.

Units: 3

Course Typically Offered:

SWRK 161 - Social Work Processes

Prerequisite: SWRK 20, SWRK 123, SWRK 135 and SWRK 160
Foundation for generalist Social Work Practice.

Units: 3

Course Typically Offered:

SWRK 170 - Quantitative Research in Social Work: Theory and Application

Prerequisite: 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.

Units: 3

Course Typically Offered:

SWRK 171 - Qualitative Research in Social Work: Theory and Application

Prerequisite: SWRK 170 with a C grade or better
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.

Units: 3

Course Typically Offered:

SWRK 180 - Seminar in Macro Practice

Prerequisite: SWRK 20, SWRK 123, SWRK 135, SWRK 136, SWRK 160, SWRK 161 or SWRK 161S
Corequisite: SWRK 181I
Analysis of intervention strategies in large groups, organizations, and the community. In conjunction with field, this class represents the macro culminating experience in the social work

major.

Units: 3

Course Typically Offered:

SWRK 181I - Field Instruction A

Prerequisite: SWRK 20, SWRK 123, SWRK 135, SWRK 136, SWRK 160 and SWRK 161 or SWRK-161S with a C grade or better
Corequisite: SWRK 180

First semester field internship. Guided social work practice experience with individuals, groups, families and organizations. Liability insurance required during internship. CR/NC grading only.

Course Fee: CSU liability insurance fee, \$8

Units: 6

Course Typically Offered:

SWRK 182I - Field Instruction B

Prerequisite: SWRK 180 and SWRK 181I with a CR grade

Corequisite: SWRK 183

Second semester field internship. Guided social work practice experience with individuals, groups, families and organizations. Liability insurance required. CR/NC grading only.

Course Fee: CSU liability insurance fee, \$8

Units: 6

Course Typically Offered: Spring

SWRK 183 - Seminar in Micro Practice

Prerequisite: SWRK 180 and SWRK 181I with a C or CR grade

Corequisite: SWRK 182I

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.

Units: 3

Course Typically Offered: Spring

SWRK 190 - Independent Study

See Academic Placement -- Independent Study.
Approved for RP grading.

Units: 1-3 Repeatable for a maximum of 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

Corequisite: 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 210 - Laws, Ethics, & Professional Issues in Social Work Practice I

Corequisite: SWRK 220 and SWRK 280
Introduction to the social work profession's code of ethics and the standards, laws and regulations governing foundation social work practice.

Units: 1

Course Typically Offered: Fall

SWRK 211 - Laws, Ethics, & Professional Issues in Social Work Practice II

Prerequisite: SWRK 210

Corequisite: SWRK 221, SWRK 222, and SWRK 281

This course builds on the foundation knowledge from SWRK 210, providing content on ethical dilemmas, ethical decision making, ethical standards and risk management, laws and regulations governing foundation social work practice.

Units: 1

Course Typically Offered: Spring

SWRK 212 - Human Behavior in the Social Environment: A Multisystems Approach

Provides knowledge of the theories that attempt to bring understanding 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.

Units: 3

SWRK 220 - Seminar in Foundations for Social Work Practice I

Corequisite: SWRK 280

SWRK 220 is taken simultaneously with field to allow for the integration of applying your classroom learning to the actual "real world" experiences/cases in field. Seminar about the development of multi-system social work practice with an emphasis upon intervention with individuals, families, and small groups.

Units: 3

SWRK 221 - Seminar in Foundations for Social Work Practice II

Prerequisite: SWRK 200, SWRK 220

Corequisite: SWRK 281

Analysis and application of the theories, principles and techniques of social work practice with individuals, families, and groups.

Units: 3

SWRK 222 - Advocacy in Social Work Practice

Prerequisite: SWRK 210, SWRK 220

Corequisite: SWRK 211, SWRK 221 and SWRK 281

Introduces students to the various types of advocacy and the role of advocacy to the welfare state. The students will learn the skills necessary to engage in advocacy with individuals, groups, organizations, and

communities to address needs and problems.

Units: 3

Course Typically Offered:

SWRK 223 - Advanced Social Work Practice with Individuals and Families

Prerequisite: SWRK 211, SWRK 213, SWRK 221, SWRK 222, SWRK 263, SWRK 281
Corequisite: SWRK 282

An analysis and application of the theories, principles, and techniques of advanced social work practice with individuals and families from a strength-based, empowerment perspective.

Units: 3

Course Typically Offered: Fall

SWRK 225 - Seminar in Advanced Social Work Practice with Task and Treatment Groups

Prerequisite: SWRK 221
Analysis and application of the theories, principles and techniques of skills used in task and treatment groups.

Units: 3

SWRK 248 - Social Work Practice with Organizations and Communities

Prerequisite: SWRK 223, SWRK 282
Corequisite: SWRK 283
An advanced social work practice course within the multisystem specialization focusing on organizations and communities.

Units: 3

Course Typically Offered: Spring

SWRK 262 - Social Work Research Methods

Corequisite: SWRK 200 and SWRK 212
A social work research course focusing on mixed research methods involving both quantitative and qualitative approaches.

Units: 3

Course Typically Offered: Fall

SWRK 263 - Program Evaluation and Social Work Research

Prerequisite: SWRK 200, SWRK 212, and SWRK 262

A social work research course focusing on research methods for program evaluation.

Units: 3

Course Typically Offered:

SWRK 264 - Advanced Policy, Theory, & Practice in Behavioral Health & Integrated Practice Track I

Corequisite: SWRK 223 and SWRK 282
An analysis and application of the policy, theories, principles and techniques of social work practice within behavioral health and integrated practice from a strengths-based, empowerment perspective.

Units: 3

Course Typically Offered: Fall

SWRK 265 - Advanced Practice in Behavioral Health & Integrated Practice Track II

Prerequisite: SWRK 263
Corequisite: SWRK 248 and SWRK 283
An advanced analysis and application of the theories, principles and techniques of social work practice within behavioral health and integrated practice from a strengths-based, empowerment perspective.

Units: 3

Course Typically Offered: Spring

SWRK 269 - Advanced Practice Public Mental Health Services I

Prerequisite: completion of foundation year course work
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.

Units: 3

SWRK 270 - Advanced Practice Public Mental Health Services II

Prerequisite: completion of foundation year course work and SWRK 269 PMHS I or permission of instructor

Advanced public mental health practice. Recovery Model, skills, and evidence-based practice. Required for CalSWEC Public Mental Health stipend students.

Units: 3

SWRK 271T - Seminar in Social Work Specializations

In-depth study of specific treatment modalities or methods, e.g., community organization, community development, crisis intervention, personality adjustment.

Units: 1-3 **Repeatable** for a maximum of 9 units.

SWRK 272 - Bilingual/Bicultural Advanced Social Work Practice I

The course will expose students to the language utilized by human service professionals in a variety of settings. While the focus will be on language and cultural development, students should expect to learn about the social/cultural principles of social work practice with Latinos, develop competence in developing professional relationships with Latinos, and learn about social work service delivery systems across our multisystem specialization, and how they affect Latinos and their families in assessment, intervention, and treatment in behavioral health and substance abuse.

Units: 3

Course Typically Offered: Fall

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 SW Policy, Theory & Practice in Schools Track I

Corequisite: SWRK 223, SWRK 282
Addresses the specific policy, theory, 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.

Units: 3

SWRK 275 - Advanced Social Work Practice in Schools Track II

Prerequisite: SWRK 274

Corequisite: SWRK 248 and SWRK 283

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

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.

Units: 3

SWRK 278 - Advanced Policy, Theory, and Practice in Child Welfare Track I

Prerequisite: SWRK 281

Corequisite: SWRK 282

Examination of current policies, programs, and practices in child welfare in California and the United States including the socio-historical context. Attention given to new perspectives on the delivery system and staffing in child welfare and to the role that theory has in child welfare practice. Meets State of California pre-licensure requirements for child abuse assessment and reporting content.

Units: 3

SWRK 279 - Seminar in Advanced Social Work Practice with Elders

Prerequisite: SWRK 125 recommended

Advanced multi-systems practice course focused on assessment and intervention with older adults and their families. 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

Corequisite: SWRK 210 and 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.

Course Fee: CSU liability insurance fee, \$8

Units: 2-3

SWRK 281 - Field Instructed Practice II

Prerequisite: SWRK 280 and permission of Field Coordinator required

Corequisite: SWRK 211, SWRK 221, SWRK 222

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.

Course Fee: CSU liability insurance fee, \$8

Units: 2

SWRK 282 - Advanced Field Instructed Practice I

Prerequisite: SWRK 281 and permission of Field Coordinator

Corequisite: SWRK 223

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.

Course Fee: CSU liability insurance fee, \$8

Units: 4

SWRK 283 - Advanced Field Instructed Practice II

Prerequisite: SWRK 282 and permission of Field Coordinator

Corequisite: SWRK 248

Second 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.

Course Fee: CSU liability insurance fee, \$8

Units: 4

SWRK 288 - Advanced Child Welfare Practice Track II

Prerequisite: SWRK 278

This course provides advanced knowledge and practice skills in child welfare services to provide enhanced professional social work practice approaches with abused/neglected children and their families that are founded on social policy and federal and state laws.

Units: 3

Course Typically Offered: Spring

SWRK 290 - Independent Study

See Academic Placement. Approved for SP grading.

Units: 1-3 **Repeatable** for a maximum of 6 units.

SWRK 292 - Seminar in Thesis/Project

Seminar for developing and implementing thesis or project research that adds to social work practice and knowledge.

Units: 2

SWRK 298 - Project

Prerequisite: SWRK 292 with a C grade or better 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** for a maximum of 4 units.

SWRK 298C - Project Continuation

Prerequisite: 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 submission of an acceptable thesis for the master's degree. Approved for RP grading.

Units: 2

SWRK 299C - Thesis Continuation

Prerequisite: 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 1 - An Introduction to Learning and the University

GE Area/Graduation Requirement: GE Breadth E

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 E.

Units: 3

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 20T - Acad Learn Strat

Units: 3

UNIV 20T - Academic Success

UNIV 20T is 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: 1-3

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

UNIV 20T - Writing Skills

Units: 1

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 210 - Advanced Grape and Wine Chemistry

Prerequisite: ENOL 110
Current advances and innovations in grape and

wine chemistry. Students completing this course will understand advanced wine chemistry, be able to search literature, design experiments, collect, analyze and interpret data, and write scientifically.

Units: 3

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** for a maximum of 2 units.

VEN 250T - Topics in Viticulture and Enology

Prerequisite: 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** for a maximum of 6 units.

VEN 280 - Research in Viticulture and Enology

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: 3

VEN 290 - Independent Study

See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3

VEN 299 - Thesis

Prerequisite: Advancement to Candidacy
See Criteria for Thesis and Project. Preparation, completion, and submission of an acceptable thesis for the master's degree. Oral defense of thesis required. Approved for RP grading.

Units: 6

VEN 299C - Thesis Continuation

Prerequisite: thesis VEN 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

Viticulture

VIT 15 - Introduction to Viticulture

This course provides an introduction to viticulture, covering origin and distribution of grapevines; anatomy, morphology and phenology of grapevines; uses and products of grapes; grape production of the world, USA, and California; basics of cultivars, rootstocks, and cultural practices for producing wine grapes, table grapes, and raisins. (Formerly VIT 162T)

Units: 3

Course Typically Offered: Fall

VIT 100 - Viticulture and Enology Research Methods

Prerequisite: MATH 11 or MATH 11L or equivalent

An introduction to data collection, processing, analysis, interpretation, and presentation in viticulture and enology. Use of graphics in presentations and publications. Procedures used in designing research experiments and types of experimental designs. Use of multivariate analysis in viticulture and enology. (Formerly VIT 162T)

Units: 3

Course Typically Offered: Fall

VIT 101 - General Viticulture I

Prerequisite: BIOL 11 and VIT 15

Growth and physiology of the grapevine. Climatic and soil requirements for grape growing. Principles and practices of grapevine irrigation and nutrition. Summer and fall cultivation practices: canopy management, yield assessment, harvest, post-harvest management.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 3

Units: 3

Course Typically Offered:

VIT 102 - General Viticulture II

Prerequisite: BIOL 11 and VIT 15

Winter and spring vineyard actions. Vine pruning, propagation, planting, training, and trellis systems. Recent developments in viticulture practices, with emphasis on raisin, table, and wine grape production. Vine anatomy, morphology and phenology.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 3

Units: 3

Course Typically Offered:

VIT 103 - Table Grapes and Raisins: Production and Post-Harvest

Prerequisite: VIT 101 and VIT 102

Overview of table grape and raisin production and marketing. Principles and practices of raisin production; sun drying, mechanical dehydration, on-the-vine drying; new raisin processes to produce new products. Major table grape and raisin growing regions. Cultural practices and vineyard management. Harvesting practices and post-harvest technology.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 3

Units: 3

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.

Weekly Lecture Hours: 1

Weekly Lab/Activity Hours: 3

Units: 2

Course Typically Offered: Fall

VIT 160 - Mechanized, Automated and Digital Viticulture

Prerequisite: VIT 15 and VIT 101 or equivalent

Provides detailed description of the machinery and mechanical operations used to establish vineyards, carry out cultural practices, and harvest grapes for production of wine grapes, raisins, and table grapes. Introduce students to

new technologies in vineyard management, precision viticulture, data science and robotics. Objective is to provide students with an understanding of modern viticulture practices to increase efficiency in vineyard systems.

Units: 3

Course Typically Offered: Spring

VIT 162T - Topics in Viticulture

Viticultural topics in wine, table and raisin grape production. Some topics may include labs.

Units: 1-4 **Repeatable** for a maximum of 12 units.

VIT 165 - Ampelography Grape Genetics

Prerequisite: VIT 101 and VIT 102

Taxonomy and ampelography of the grapevine with emphasis on genus, species, varieties, and clones. Identification, viticulture attributes, adaptation, and utilization of the leading rootstocks, raisin, table, and wine varieties grown in California and the United States. The role of grape genetics in new cultivar development for pest and disease resistance, environmental factors.

Units: 3

Course Typically Offered: Fall

VIT 166 - Management of Grape Diseases, Disorders, and Pests

Prerequisite: BIOL 11 and VIT 102

In-depth study of grapevine abnormalities. Identification of specific fungal diseases, bacterial infections, virus infections, grape pests and abnormalities related to environmental, physical conditions. Deficiencies and toxicity of nutrients, herbicide damage and genetic mutations to help identify pest and disease symptoms from environmental effects. California used as an example to explain, plan and monitor calendar of events for spray programs. Integrated Pest Management specific to wine, table and raisin grapes. (Formerly VIT 162T)

Units: 3

Course Typically Offered: Spring

VIT 167 - Vineyard Ecology and Organic Production

Prerequisite: BIOL 11 or equivalent

This course will help students develop an

understanding of vineyard production systems, environmental aspects of vineyards; ecosystem services of vineyards; socio-economic aspects of vineyards; aspects of organic production of raisin, table, and wine grapes; and aspects of organically produced wine. Formerly VIT 162T.

Units: 3

Course Typically Offered: Fall

VIT 168 - Vineyard Floor Vegetation Management

Prerequisite: BIOL 11; CHEM 3A, CHEM 3B or CHEM 8

Vineyard floor, vegetation management principles, practices, chemical, non-chemical management. ID, description of abiotic, biotic components. Assessment, quantification of component contributions on vine canopy productivity. Integration of cultural, physical, biological, chemical vegetation management strategies, major modes of action of herbicides used for undesirable vegetation elimination in vineyards. Herbicide rates, sprayer calibrations. Designing, recommend, implement sustainable vineyard floor management strategies.

Weekly Lecture Hours: 2

Weekly Lab/Activity Hours: 3

Units: 3

Course Typically Offered: Spring

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** for a maximum of 6 units.

Course Typically Offered: Fall, Spring

VIT 194I - 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; 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** for a maximum of 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.

Units: 1 **Repeatable** for a maximum of 4 units.

Course Typically Offered: Fall

Women, Gender, and Sexuality Studies

WGSS 10 - Introduction to Women's Studies

GE Area/Graduation Requirement: GE Breadth D2

Prerequisite: G.E. Foundation A2 for students in English college -readiness Category III and IV
Interdisciplinary course designed to introduce students to the major social, cultural, economic, and political forces which define gender in society.

Units: 3

Course Typically Offered: Fall, Spring

WGSS 11 - Introduction to LGBTQ+ Studies

GE Area/Graduation Requirement: GE Breadth D2

Prerequisite: GE Foundation A2 for students in English college -readiness Category III and IV
Introduction to theory, questions, and topics in interdisciplinary LGBTQ+ studies. (Formerly WS 125)

Units: 3

Course Typically Offered:

WGSS 12 - Critical Thinking: Gender Issues

GE Area/Graduation Requirement: GE Foundation A3

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.

Units: 3

Course Typically Offered: Fall, Spring

WGSS 18 - Women and Aging

GE Area/Graduation Requirement: GE Breadth E

(WGSS 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. (Formerly WS 118)

Units: 3

Course Typically Offered:

WGSS 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** for a maximum of 12 units.

WGSS 101 - Women in History

GE Area/Graduation Requirement: GE Integration ID

Prerequisite: GE Foundation, Breadth D and PLSI 2

(HIST 101 same as WGSS 101) Historical survey of women's roles in history, with an emphasis on the emergence of the feminist

movement.

Units: 3

WGSS 102T - Topics in Women's History

(HIST 102T same as WGSS 102T) See Schedule of Courses for specific topics.

Units: 3 **Repeatable** for a maximum of 6 units.

WGSS 103 - History of Feminisms

Survey of the complex histories of both the ideas and actions of feminisms. The class emphasizes histories of feminisms within the U.S., while providing a sense of feminisms' longer roots and global contexts.

Units: 3

Course Typically Offered: Spring

WGSS 105 - Queer History of the United States

This course explores the historical development of institutions, ideals, social and cultural transformations, and economic and political processes in the U.S. since European colonization with a focus on the evolution of sexual and gender diversity, specifically the growth of the LGBTQ2+ community.

Units: 3

Course Typically Offered: Spring

WGSS 105 - Queer History of the United States

(WGSS 105 same as HIST 155) This course explores the historical development of institutions, ideals, social and cultural transformations, and economic and political processes in the U.S. since European colonization with a focus on the evolution of sexual and gender diversity, specifically the growth of the LGBTQ2+ community.

Units: 3

WGSS 107 - Women in US Politics

Prerequisite: at least one 3 unit WGSS or PLSI course

(WGSS 107 same as PLSI 107). 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

Course Typically Offered:

WGSS 108 - Rape and Sexual Assault

An inquiry into the phenomenon of rape, sexual assault, 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:

WGSS 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:

WGSS 110 - Representations of Women, Gender, and Sexuality

GE Area/Graduation Requirement: GE Integration IC

Prerequisite: GE Foundation and Breadth C Interdisciplinary analysis of representations of women, gender, and sexuality across genres, emphasizing popular culture/mass media. Includes critical assessment of historic and contemporary representations and impacts on cultural/societal experiences, identity, equality/justice. Some attention to media institutions, women as creators, alternative narratives.

Units: 3

Course Typically Offered: Fall, Spring

WGSS 111 - LGBTQ+ Representation in Film & Video

GE Area/Graduation Requirement: GE Integration IC

Prerequisite: GE Foundation and Breadth C This class investigates lesbian, gay, bisexual,

transgender and queer (LGBTQ+) representation through film, television, and online videos. We will also examine sexual orientation and gender identity through a critically queer and transgender lens. Students will learn about queer and feminist film theory and how representations of LGBTQ+ have shaped conversations of what it means to be LGBTQ+ in the United States.

Units: 3

WGSS 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

WGSS 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

WGSS 115 - Women, Children & Alcohol

Covers impact of addiction on women and children using a systems perspective.

Units: 1

WGSS 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:

WGSS 120 - Women of Color in the United States

GE Area/Graduation Requirement: Multicultural/International

Prerequisite: GE Foundation and Breadth 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.

Units: 3

Course Typically Offered: Spring

WGSS 122 - Queer Indigenous and Queer of Color in the United States

GE Area/Graduation Requirement:
Multicultural/International

Prerequisite: GE Foundation and Breadth D
This course examines the emergent theoretical field of queer Indigenous and queer of color critique, a mode of analysis grounded in the struggles and world-making of LGBTQ2+ people of color and queer Indigenous and Two-Spirit communities.

Units: 3

WGSS 124 - Gender and Sexuality in Education

GE Area/Graduation Requirement: GE
Integration ID

Prerequisite: GE Foundation, Breadth D and PLSI 2
This course examines the intersections of gender and sexuality and the influence of these intersections on classrooms, schools, and educational policy.

Units: 3

WGSS 126 - Women and Violence: Public Policy and the Law

(CRIM 126 same as WGSS 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:

WGSS 127 - Female Sexuality

(PH 127 same as WGSS 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

WGSS 128 - Queering Migration: Sexuality, Gender, and Race in Migration and Borders

(SOC 133 same as WGSS 128) This course explores migration, transnationalism, and border crossings through critical queer and critical race perspectives. Throughout the course, we will investigate the concept of queering borders in which the categories of identity and subjectivity are deconstructed and reformed as individuals situate themselves in multiple locations physically, symbolically, and discursively. Students will gain a thorough understanding of the intersections of race, gender, and sexuality in regards to borders, transnationalism, and migration.

Units: 3

Course Typically Offered:

WGSS 130 - Women's Health

(PH 130 same as WGSS 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

WGSS 132 - Women and Work

(SOC 132 same as WGSS 132.) An examination of women and work in contemporary society including housework, labor force participation, employment in various occupations, and career planning.

Units: 3

WGSS 135 - Women In Cross-Cultural Perspective

GE Area/Graduation Requirement:
Multicultural/International

Prerequisite: GE Foundation and Breadth 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, multicultural world.

Units: 3

Course Typically Offered: Fall, Spring

WGSS 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** for a maximum of 9 units.

WGSS 137 - African American Women

(AFRS 137 same as WGSS 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 society vs. legitimate definition designed to encourage a positive self-concept.

Units: 3

WGSS 138 - Asian American Women

(ASAM 138 same as WGSS 138) Addresses race, ethnic, and class issues from the vantage point of Asian American women. For Asian American and Southeast Asian communities, the status of women has long been neglected. Yet women play an important role in the family and its economy even as they enter new roles in U.S. society. Helpful to students in sciences and applied fields.

Units: 3

WGSS 139 - Chicana Women in a Changing Society

(CLAS 162 same as WGSS 139) 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

Course Typically Offered:

WGSS 140 - Politics of Latina Health and Size

(WGSS 140 same as CLAS 140) 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

WGSS 141 - The Chicano Family

(CLAS 141 same as WGSS 141.) Traditional and changing relationships in the family structure of the Chicano; interaction with wider institutional social system. (Formerly WS 141)

Units: 3

WGSS 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

WGSS 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

WGSS 149 - Gender Law & Social Policy

GE Area/Graduation Requirement: GE Integration ID

Prerequisite: GE Foundation, Breadth D and PLSI 2

Survey of the impact of feminist legal theory, critical race feminism, and queer theory on the law, the legal system, and social policy. (Formerly WS 150T)

Units: 3

Course Typically Offered: Fall

WGSS 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** for a maximum of 12 units.

WGSS 151T - Topics in LGBTQ+ Studies

Topics in LGBTQ+ studies, drawing upon areas such as history, sociology, literature, psychology, or interdisciplinary fields.

Units: 1-3 **Repeatable** for a maximum of 6 units.

WGSS 153 - Feminist Research Methodologies

Prerequisite: WGSS 10, WGSS 103, WGSS 110, WGSS 120, WGSS 135, or WGSS 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

WGSS 160 - Feminist Issues in Counseling

Prerequisite: WGSS 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

WGSS 162 - Community Service in Women's Studies

Prerequisite: 9 hours of WGSS 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** for a maximum of 6 units.

WGSS 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

WGSS 168T - Women and Literature

Prerequisite: ENGL 20
(WGSS 168T same as ENGL 168T.) 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

Course Typically Offered: Spring

WGSS 170 - Sex, Gender, Biology and Culture

(ANTH 118 same as WGSS 170.) A cross-cultural and interdisciplinary analysis. Examines theories and frameworks from across the five-fields of anthropology that explain variations in the expression and human experience of sex, gender, and sexuality, maturation, reproduction, and the life cycle. Also explores how biology shapes culture and how culture shapes biology.

Units: 3

WGSS 172 - Transnational Feminisms: Histories, Foundations, and Debates

Prerequisite: WGSS 11, WGSS 103, WGSS 143, WGSS 153, or WGSS 175
Transnational Feminisms examines the histories, foundations, and current debates among transnational feminists globally. The course content examines transnational feminists critiques of and responses to global expansion projects and their local impacts on women, negatively racialized, and gender non-conforming peoples.

Units: 3

Course Typically Offered: Fall

WGSS 175 - Seminar in Women's Studies

Prerequisite: 15 units in women's studies or permission of instructor
Primarily for women's studies majors and minors. A synthesis of objective and subjective experience in women's studies. Culminating experience required.

Units: 3

Course Typically Offered:

WGSS 178 - Lesbian & Gay Literature

Prerequisite: ENGL 178 Prerequisite: ENGL 105. WGSS 178 Prerequisite: WGSS 11 or permission of the instructor.
(ENGL 178 same as WGSS 178) 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:

WGSS 190 - Independent Study

See Academic Placement --Independent Study.
Approved for RP grading.

Units: 1-3

WGSS 194T - Seminar in Women and Literature

(ENGL 194T same as WGSS 194T) 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** for a maximum of 8 units.

WGSS 195 - Diversity in the United States: Race and Gender Issues

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