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5000 Rocklin Road, Rocklin, CA 95677
(916) 624-3333
Welcome

Sierra College is accredited by the Accrediting Commission for Community and Junior Colleges of the Western Association of Schools and Colleges, 10 Commercial Boulevard, Suite 204, Novato, CA 94949 (415) 506-0234, an institutional accrediting body recognized by the Commission on Recognition of Postsecondary Accreditation and the U.S. Department of Education.

www.sierracollege.edu

Rocklin Campus
5000 Rocklin Road
Rocklin, California 95677
(916) 624-3333

Nevada County Campus
250 Sierra College Drive
Grass Valley, California 95945
(530) 274-5300

Tahoe-Truckee Campus
11001 College Trail
Truckee, California 96161
(530) 550-2225

Roseville Gateway Center
333 Sunrise Avenue
Roseville, California 95661
(916) 781-6200
Sierra College Vision 2020

Sierra College is committed to ensuring that the ultimate focus of all its activities is a rich, diverse, and accessible education as described in the Mission Statement.

Mission Statement
Sierra College provides a challenging and supportive learning environment for students having diverse goals, abilities and needs interested in transfer, career and technical training, and life long learning. The College’s programs and services encourage students to identify and to expand their potential. Sierra College students will develop the knowledge, skills and abilities to become engaged and contributing members of the community.

Vision Statement
We will challenge ourselves and our community to become fulfilled citizens in a global environment by contributing to and engaging in the thoughtful application of knowledge guided by respect for others and the world in which we live.

Further, to maintain this vision throughout all the communities served by Sierra College, the Board of Trustees reaffirms as its philosophy that Sierra College should remain one college, with multiple campuses (or centers), distributed throughout the District. Every effort will be made to carry out this philosophy.

To promote the mission of the College and its philosophy, the Board of Trustees adopts its vision, “Sierra College 2020” embodies in the following philosophy and goals:

District Goals
The Sierra College Strategic Plan identifies four overarching District goals.
1. Educational Effectiveness—Programs and services of the District will effectively promote and support student opportunity, success and achievement.
2. Organizational Effectiveness—The District will manage its resources to best meet its multiple missions within the constraints of its resources.
3. Resource Development—The District will focus on securing new resources to align with strategic goals.
4. Focused Access—The District will target outreach and access efforts to best serve its community.

Core Values
The following core values will establish our ethical principles and will guide our institutional decision-making.
Sierra College will:
1. Support and model excellence in teaching, learning, scholarship, and creativity.
2. Provide the tools for continuing success in an ever-changing world.
3. Provide, and demonstrate the value of, an inclusive community.
4. Demonstrate collaboration in decision making.
5. Foster active citizenship in our community, our nation, and our world.
6. Create and nurture meaningful connections to our community.
7. Recognize that students are active participants in their education.
8. Support and demonstrate the sustainable use of all resources.

Board Philosophy
The Board of Trustees will:
1. Support the efforts of all staff in focusing on the goals and mission of the District.
2. Focus on institutional goals in the work of planning and governance.
3. Promote and develop partnerships among schools, business, local governments, and diverse cultural interests to benefit our educational programs.
4. Work collaboratively with all major community interest groups and agencies.
5. Promote development that preserves environmental balance; model and foster environmental responsibility.
6. Actively support legislation that increases funding for the Community Colleges.
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A Brief History of Sierra College

The origin of Sierra College is somewhat uncertain. Some have said that the College may have begun with the establishment of Sierra Normal College and Business Institute in 1882. It was a small, private college at the location of today’s Placer High School in Auburn. Most think that Sierra College is an outgrowth of the Placer Union High School District.

In 1914, the Placer Union High School District was born, stretching from Loomis to Lake Tahoe. That same year, college-level classes were offered. The new college was named Placer Junior College. It was the fourth oldest junior college in California at the time and only one of nine statewide; the faculty numbered four.

Due to enrollment loss caused by World War I, Placer Junior College was abandoned by 1920, but the college idea never completely died. In 1936, the college was reestablished, again in Auburn, with the enthusiastic support of local voters. It is 1936 that Sierra College uses as its official date of birth.

Three wings of buildings were constructed to serve primarily Placer Junior College, but Placer High School students shared many of the facilities, instructors and organizational structure with the new college. Enrollment numbered about 100 and the college athletes went by the name “Spartans.” The college grew steadily and by 1938, 200 students were enrolled.

Enrollment crested at 282 in 1939, but events quickly overtook the college in the 1940s. The 1941 attack on Pearl Harbor essentially ended enrollment by men as many went off to serve their country. Additionally, enrollment dropped significantly when Japanese-Americans were forced into internment camps. The student population dropped to 53 by 1943. The college eliminated the “Junior” from its name, becoming Placer College.

The war’s end brought returning veterans, the end of internment, and the GI Bill of Rights. Enrollment in the post-war years exploded as a result. 1946 saw 467 students—about half were veterans. 856 were enrolled in 1949 and the Placer College facility was bursting at the seams. The College had reached full capacity, and efforts to find a new college location began. Area population continued to grow and the need for new facilities grew acute. In 1953, Placer College was renamed Sierra College and its athletes gained a new nickname—the “Wolverines.”

In 1957, the new Sierra Junior College District successfully passed a bond measure to pay for new facilities. In 1958, a site selection committee considered thirty-five possible locations and the present Rocklin site was chosen.
facilities. Located on beautiful McIver Hill next to Interstate 80, the state-of-the-art “green” campus overlooks historic Truckee. In 2007, the Lincoln Public Library at Twelve Bridges opened. This library is a joint venture between the City of Lincoln, the Western Placer Unified School District, and Sierra College. Also, in 2008, a new Mathematics and Technology Building was constructed on the Rocklin campus.

Sierra College’s outstanding academic reputation, excellent technologies and training programs, and updated facilities led to increases in student enrollment. Projections of future “for credit” enrollment top 25,000.

The Sierra Community College District includes all of Placer and Nevada Counties and part of El Dorado and Sacramento Counties. In recent years, Placer and Nevada Counties have been two of California’s fastest growing areas.

The College District continues to experience dramatic growth and change. The future is bright as new technologies evolve, offering greater educational accessibility for students—both today and tomorrow.

Since its first days, the promise of Sierra College has been to provide a challenging and supportive learning environment for students having diverse goals, abilities, and needs interested in transfer, career and technical training, and life long learning. The College continues this mission as it adapts to meet the ever-changing needs of students.

By 1961, the new Rocklin campus opened and enrollment reached 1,500. In 1962, Nevada County joined Placer County in forming a huge new Sierra Junior College District, which then had more square miles—3,200—than students.

Enrollment boomed in the 1960s. By the end of the decade, Sierra College boasted 100 full-time faculty members and nine new campus buildings. Enrollment was nearly 4,000. However, as fast as new facilities could be built, they were filled. The next several decades saw significant student population growth. From 1970 to 1990, enrollment jumped from 4,000 to nearly 14,000, and, by the year 2000, the college enrolled approximately 18,000 students.

In 1996, the 105-acre Nevada County Campus was opened. Twelve locations had been considered in that county until property between Grass Valley and Nevada City was chosen.

Leased centers were opened in the Tahoe/Truckee and Roseville areas. Classes were also taught at local high schools and community centers.

In recent years, successful bond issues provided for an expansion of the Nevada County Campus and the creation of a permanent Tahoe-Truckee Campus. In 2008, the Tahoe-Truckee campus inaugurated its brand-new facilities.
2010-2011 Academic Calendar

Fall Semester 2010

Aug. 23  INSTRUCTION BEGINS
Sept. 4–6  Holiday (Labor Day)
Sept. 6  Last Day to Add Full-Semester Class
         Last Day to Drop from Full-Semester Class without Receiving a “W”
         Last Day to Drop from Full-Semester Class and Receive a Refund
Sept. 7  First Census Day
Sept. 17  Deadline to Initiate Credit By Examination (Challenge)
Sept. 24  Last Day to Request Pass/No Pass Grading for Full-Semester Class
Oct. 1  Last Day to Request December 2010 Degree or Certificate
Nov. 2  Last Day to Withdraw from Full-Semester Class and Receive a “W”
Nov. 12  Holiday (Veterans Day)
Nov. 25–27  Holiday (Thanksgiving)
Dec. 11  Semester Ends
Dec. 20-31  Campus Closed

Spring Semester 2011

Jan. 17  Holiday (Dr. Martin Luther King, Jr. Day)
Jan. 24  INSTRUCTION BEGINS
Feb. 6  Last Day to Add Full-Semester Class
         Last Day to Drop from Full-Semester Class without Receiving a “W”
         Last Day to Drop from Full-Semester Class and Receive a Refund
Feb. 7  First Census Day
Feb. 17  Deadline to Initiate Credit By Examination (Challenge)
Feb. 18–21  Holiday (Presidents’ Weekend)
Feb. 28  Last Day to Request Pass/No Pass Grading for Full-Semester Class
March 1  Last Day to Request May and/or August 2011 Degree or Certificate
April 8  Last Day to Withdraw from Full-Semester Class and Receive a “W”
April 18–23  Spring Break, Campus Closed
May 19  Commencement—Nevada County Campus
May 20  Commencement—Rocklin Campus
May 21  Semester Ends

Summer 2011

May 30  Holiday (Memorial Day)
June 6  INSTRUCTION BEGINS
July 4  Holiday (Independence Day)
July 30  End of Summer Classes

This calendar is subject to change.
Each short-term or fast-track class has its own add, drop, withdrawal, refund, and pass/no pass grading deadlines. Contact a campus Admissions and Records Office or check the Sierra College website for registration information.
General Information

Instructional Programs
General Education: A range of courses to help students gain breadth of knowledge about the environment, natural sciences, social and behavioral sciences, humanities, English, communication and analytical thinking, awareness of cultural differences, and the importance of maintaining health and fitness.

Educational Programs: Organized sequences of courses leading to a defined objective, a degree, a certificate, a diploma, a license, or transfer to another institution of higher education.

Transfer Curriculum: Courses that meet general education and lower-division major requirements equivalent to the first two years at a four-year university to which students may transfer with junior standing.

Career and Technical Education: Programs to prepare students for entry into professional level employment opportunities, or update job skills in the rapidly changing workplace.

Basic Skills: Both nondegree-applicable credit courses and noncredit courses in reading, writing, computation, and English as a Second Language (ESL).

Contract Course: Course offered under a contract pursuant to Educational Code 78021 with a public or private agency, corporation, association, or other organization.

Center for Applied Competitive Technologies (CACT): Serves small to medium sized manufacturing and technology companies by providing technical assistance, technology transfer, and workforce training. Services are delivered via demonstration sites, workshops, and business consulting. For further information see the website at www.sierracollegetraining.com/cact.php. The Workforce Training and Development Program also provides fee-based, short-term, not-for-credit customized employee training and process improvement services to help local employers become more profitable and competitive. Many of the credit and noncredit courses listed in the catalog can be conducted at the employer’s site. For further information see the Training and Development website at www.sierracollegetraining.com.

Community Education Program: Provides convenient classes and activities to meet the needs and interests of our diverse community for enrichment and personal and professional growth. The Kaleidoscope schedule of short, not-for-credit, fee-based classes is published in spring, summer, and fall. Classes are offered in areas of business, computers, creative arts, food and wine, health, home and garden, money and finance, and many other current interest subjects. Additionally, special activities such as sports camps, motorcycle training, traffic school, bus trips and extensive travel are offered. Classes are open for the admission of adults and those minors who, in the judgment of the governing board, may benefit from the program. Students shall be charged a fee not to exceed the cost of maintaining the classes. For further
Information see the Community Education website at www.sccommed.org.

Distance Learning: Online and television courses which allow students to complete college studies from the convenience of their home. Online courses may be accessed from anywhere at anytime through an Internet connection. Television courses are broadcast live and distributed to various cable companies within the District and streamed live on the Internet. Students interact with the professor via telephone.

Field Trips: Trips sponsored by the various instructional divisions to provide students with the enriching experience of visiting such locations as the Sierra Nevada, the ocean, and the desert. Additional fees may be assessed.

Internship Program: Work site learning which provides students an opportunity for hands-on experience, application of classroom learning and exploration and development of skills and knowledge in a particular field or profession. Sierra College offers a two-level internship program. The lower level, called Internship 94, is a Career Exploration internship in which the primary focus is for a student to learn more about a particular field or profession, without extensive previous knowledge or experience. The upper level placements, called Internship 95, are designed for advanced students to expand their knowledge and skills in an area related to their college major.

Osher Lifelong Learning Institute (OLLI): Provides noncredit, tuition-free instruction specifically designed to serve the interests of adults 55+ years of age. Classes are short term, typically four to six weeks in length. A variety of course topics are offered, including art, film, fitness, music, nutrition, and literature. For further information see the OLLI website at www.sierracollege.edu/olli.

Short-term or Fast-track Classes: Classes not a full semester in duration. Each class designated short-term or fast-track has its own add, drop, withdrawal, refund, and pass/no pass deadlines.

Student Services

Counseling Services: Professional counselors provide assistance with vocational and academic assessments, career planning, course advisement, transfer assistance and personal counseling.

Support Services: Services include admissions and records, financial aid, scholarships, housing, re-entry support, tutoring, health services and support for disabled students and veterans.

Governance

The Sierra College community determines its educational and other policies through a shared governance process involving students, classified support staff, faculty and administration. A senate formed by each group advocates the group’s interests. Each organization represents its constituency with a formal voice in determining educational policy, procedures, and regulations as well as coordinating representatives on committees and councils.

The Student Senate actively represents the students in the College’s committee work and planning. The organization also promotes student activities and clubs as well as providing information on current events for the student body.

The Classified Senate represents the College’s support staff on professional matters.

The Academic Senate, under authority from Title 5 of the California Code of Regulations, represents all faculty on academic and professional matters.

The Management Senate represents educational administrators, supervisory, and confidential employees on professional matters.

The Strategic Council consists of five representatives from each of the constituency groups. The purpose of the Council is to represent the views of the campus community on matters relevant to the strategic planning directions of the college; to share in decision making by advising the Superintendent/President in the development of procedures and policies of the college; and
to assist in disseminating and interpreting policy, regulations and procedures to the various segments of the college community.

The **Board of Trustees** is the elected governing body of the Sierra Joint Community College District and has the final authority to establish policy for current and long-range educational plans and programs, promote orderly growth and development, and ensure fiscal responsibility. Board Policies and Administrative Procedures may be found at [http://www.sierracollege.edu/AboutUs/board/policies](http://www.sierracollege.edu/AboutUs/board/policies).

**Advisory Committees**

To insure that meaningful curricula in the two-year career technical programs are maintained, advisory committees, comprised of specialists in the subject matter area, meet to advise on program emphasis and change. See individual committee membership, page 285.

**Sierra College Foundation**

The Foundation was established in 1972 to recognize and encourage charitable gifts from alumni, parents and friends to meet the continuing needs of Sierra College. As an independent, non-profit corporation dedicated to project development, student assistance and educational achievement, the Foundation is supported by financial contributions (cash, memorials, bequests, real estate, trusts) and activities (golf tournaments, dinners, the auto fair and other fund-raising events). Donations are channeled toward student scholarships, facility projects and other community needs. For information, check the website at [www.sierracollege.edu/foundation](http://www.sierracollege.edu/foundation), call the Foundation Office at (916) 789-2920, or write to the Sierra College Foundation, 5000 Rocklin Road, Rocklin, CA 95677.

**Speakers Bureau**

The Speakers Bureau is designed to acquaint community members with Sierra College and its fine staff. Faculty and staff are available to address a variety of timely subjects at meetings of community groups and organizations. For information, contact Marketing/Public Relations, (916) 660-7272.
Admission

Eligibility
Admission to Sierra College is open to any person who:
1. Has a high school diploma, GED, or passed the high school proficiency examination, or
2. Is over 18 years of age and capable of profiting from instruction.

Admission Procedures
All new students or students returning to Sierra College after an absence of one or more semesters must submit an application for admission prior to registering for classes. Electronic applications are available online at www.sierracollege.edu. Paper applications, also available in Spanish and Russian, may be obtained online or requested at a campus Admissions & Records Office. Additional admission information in Spanish and Russian is also available online. High school and college transcripts are not required for admission; however, students are encouraged to bring copies when they meet with counselors for advising.

Each semester the college offers registration opportunities to those who file an application for admission and complete the matriculation process. Dates are published online or may be obtained by calling (916) 660-7340 or (530) 274-5302.

Residency Requirements
For the purpose of determining tuition and enrollment fees, Sierra College students are subject to the legal residence restrictions established by the California legislature. Residency is determined at the time of admission and requires a statement of legal residence. Supporting documentation may also be required.

California residency shall be established for students who qualify under one of the following conditions:
1. If 19 years of age or over, has resided in California and has “manifested the intent” to make California their residence for at least one year and one day prior to the beginning of the semester.
2. If 18 years of age and both the student and the student’s parent or legal guardian have resided in California and have “manifested the intent” to make California their residence for at least one year and one day prior to the beginning of the semester.
3. If under 18 years of age and the student’s parent or legal guardian has resided in California and has “manifested the intent” to make California their residence for at least one year and one day prior to the beginning of the semester.

Any student not meeting one of the above requirements
will be classified a nonresident. Regulations allow certain students to apply for nonresident tuition waivers. Contact the Admissions & Records Office for further information.

Nonresident students who wish to reapply for resident status must submit a new residency statement. Residency documents should be submitted to a campus Admissions & Records Office the semester prior to the change of status.

International Students

International students attend Sierra College from around the world. Each semester more than 47 different countries are represented at the college. Regardless of TOEFL scores, all students take assessment tests to determine placement in appropriate courses. Based on test results, college-level and/or ESL courses will be recommended. Assistance with the application and registration process is provided by the International Students Office (ISO), located in the J Building, Room 8. Contact the ISO directly for application materials at (916) 660-7330, email internationalstudents@sierracollege.edu or access international student information and application forms on the college web site at www.sierracollege.edu/int.

International students wishing to apply for study to the college on an F-1 visa must submit the following to the International Students Office:
1. A completed Sierra College International Student Application.
2. Meet at least one of the following English Language Requirements:
   Score at least 133 computer-based or 45 iBT on the TOEFL exam. OR
   Enroll in the “English as a Second Language” (ESL) program at Sierra College. This requirement is waived for students from countries that use English as the primary language in their educational systems.
3. An official bank statement (in English) dated within three months indicating that there are sufficient funds available to cover tuition expenses (minimum $16,000.00 U.S. dollars).
4. Official transcripts translated into English indicating successful completion at a secondary school equivalent to completion of an American high school and transcripts from any colleges or universities attended.
5. A copy of valid passport (photo page).
6. A non-refundable application processing fee of $100.00 payable to Sierra College in the form of a MasterCard or Visa credit card, wire transfer, cashier’s check, or check drawn on a U.S. bank (do not send cash). The $100.00 will be credited toward tuition at the time of registration.

Priority Application Deadlines:
Fall semester ........................................... July 1
Spring semester ................................. December 1
Summer sessions ................................. May 1
(for students transferring from another U.S. college)

NOTE: Prior to arriving in the United States, prospective students shall submit to Sierra College proof of freedom from tuberculosis dated no more than 90 days before the start of classes. This report must be professionally translated to English.

Mandatory Sierra College Health Insurance

All international students attending Sierra College must purchase mandatory health insurance. There are no exceptions, even for students who have health insurance through their home countries.

Other Important Health Information

When traveling from country to country, a student may be exposed to different diseases. Sierra College strongly encourages the following immunizations: Tetanus, Measles and Rubella.

Academic Enrichment

Sierra College provides part-time and full-time admission to students who have completed the tenth grade, are 16 years of age by the first day of instruction and have a GPA of 2.7 or above. Students must submit a Sierra College application for admission and an Academic Enrichment Permission Form each semester. Enrollment must be recommended by the school principal or counselor, and have the consent of a parent or guardian. Students should be counseled by the high school staff to determine the courses in which they should enroll. Students admitted under these provisions are subject to all college rules and regulations and are not eligible for student employment. Contact a campus Admissions & Records Office for more information.
Matriculation and Registration

**Matriculation**, in its usual use, means, “The steps one takes to get to and through college.” At Sierra College, Matriculation means an agreement between the college and each student as to the steps both will take to help ensure the student succeeds.

**Agreement:**

**Sierra College will:**
- Assess students’ basic educational skills and career goals
- Orient students to the college’s programs, services and policies
- Provide top-quality instruction and services
- Offer a wide variety of courses
- Offer services to support students’ education
- Follow up on students’ progress toward educational goals

**Students will:**
- Participate in Assessment and Orientation
- Declare an educational goal
- Meet with a counselor to design an educational plan
- Attend classes and complete assigned coursework
- Seek out support services as needed
- Strive to make progress toward goals

**Matriculation and Registration:** Students should complete assessment, orientation and counseling prior to registration. New students who complete at least two of these components will be allowed to register during the regular registration period.

**Assessment:** Assessment in reading, English and mathematics helps to determine student skill levels and needs. Results are used by counselors to assist students with selection of courses and development of a Student Educational Plan (SEP). The Assessment Center also offers English as a Second Language (ESL) and Ability to Benefit (ATB) testing.

**Orientation:** Sierra College staff provide information about programs, services and registration procedures. Students who complete orientation are prepared to meet with a counselor.

**Counseling:** Students meet individually with a counselor who helps them develop their educational plan, refers them to appropriate services and answers specific questions and concerns.

**Exemptions:** Some students are exempt from the requirements of Matriculation. Nevertheless, students are encouraged to avail themselves of these services. Students are exempt if they meet any of the following criteria:
- Hold an associate or higher degree;
- Apply with a selected educational goal of “educational development;”
- Apply with a selected educational goal of “maintain certificate or license;” or
- Other criteria as determined by the Sierra College Board of Trustees.

Students who have completed orientation or assessment at another college can have those portions of the matriculation requirements waived. Students should submit evidence to a campus Assessment or Counseling Office.

**Challenges or Appeals to Matriculation:** Students may request a waiver of any matriculation requirement due to extraordinary circumstances; or may review the regulations covering matriculation and file a complaint if the student believes any of these regulations are not being met. All complaints, appeals, or requests for information should be directed to the Counseling Office in the Winstead Center on the Rocklin campus.
Continuing and Former Student Registration
Registration appointments are available through mySierra for continuing and former Sierra College students. Students returning after an absence of one semester or more must have a current application on file to receive an appointment. Registration priority is based upon the total number of units completed at Sierra College. Students with the most units receive the earliest appointments. Students can register at the designated date and time or at any time thereafter during scheduled hours of registration. Students are encouraged to use mySierra web registration at www.sierracollege.edu during their scheduled appointment time to ensure the best possible course selection. Contact a campus Admissions & Records Office for assistance with registration.

Disabled students (physical, hearing, or learning) should contact the Disabled Student Programs and Services Office to make arrangements for advising and registration.

Late Registration
Late registration is available during the first two weeks of the fall and spring semesters. Permission of the class professor is required. The professor will supply each student with a 4-digit add code that will allow the student to add the course through mySierra web registration or in person at a campus Admissions & Records Office. Students must pay all fees at the time of registration. Students will then be officially enrolled. Refer to the website for registration details and deadline dates and times.

Note: Students must complete the matriculation process prior to registering for classes. Class registration will not be processed after the withdrawal deadline under any circumstances.

Fees and Expenses
All tuition, enrollment and health fees must be paid at the time of registration. Students with “holds” on their records for unpaid fees, fines, etc., must clear the holds before registration will be permitted. Sierra College reserves the right to use methods permitted by law to collect fees due, including referral to a collection agency. For further information, visit www.sierracollege.edu/payment.

Fees, especially those established by the California State Legislature, are subject to change.

Enrollment Fee
Sierra College charges a State-mandated enrollment fee of $26.00 per unit each semester. Recipients of CalWORKs, SSI/SSP, General Assistance, or qualified dependents of deceased or disabled veterans may be exempt from the enrollment fee. Check with the Financial Aid Office at least one week prior to registration for fee credits, fee waivers, grants and other means of financial assistance.

Health Fee
The mandatory health fee provides students with a range of medical services at the Sierra College Health Centers. The health fee is charged as follows:

- $17.00 per semester for students enrolled in fall or spring semester class(es);
- $14.00 for students enrolled in summer session class(es)

Exemptions are given for:

- Recipients of Board of Governor’s fee waivers, Methods “A” and “B”;
- Students enrolled exclusively in contract education classes, noncredit classes, or Public Safety In-Service Training classes;
- Students enrolled in the District’s Academic Enrichment Program;
- Students who are dependent upon prayer for healing (contact the Health Center or an Admissions & Records Office for the exemption form prior to registration).

Instructional Materials Fee
Students may be required to provide instructional and other materials for a credit or noncredit course. Approved instructional materials and related fees are published in the schedule of classes. Instructional Materials Fees are collected at the time of registration.

Nonresident Student Tuition
Under state law, all community colleges are required to charge tuition to out-of-state residents and international students. The charge for the 2010-2011 catalog year is $190.00 per unit. Nonresident tuition is in addition to the enrollment fee.
Legislation allows a waiver of nonresident tuition for students meeting the following criteria: Attended a California high school for at least three years and one of the following:
- Graduated from a California high school;
- Earned a California GED; or
- Passed the California high school proficiency examination.

Undocumented aliens are also eligible for this waiver if, in addition to the above criteria, they have applied for legalization or intend to do so as soon as they become eligible. Contact an Admissions & Records Office for information.

### Nonresident Student Capital Outlay Fee

In addition to the enrollment fee and nonresident student tuition, nonresident students must pay a Nonresident Student Capital Outlay Fee of $20.00 per unit. This fee is mandatory unless students can show “economic hardship.” Students wishing to apply for an economic hardship waiver must submit the completed paperwork to an Admissions & Records Office.

**Definition of Economic Hardship:** Victim of persecution or discrimination in the foreign country in which the applicant is a citizen and resident, or who is a recipient of benefits under the Aid to Families with Dependent Children Program, the Supplemental Income/State Supplementation Program, or a general assistance program.

### Parking Fee

Every vehicle using the Rocklin, Nevada County, or Tahoe-Truckee campus parking facilities must display a valid parking permit, clearly visible through the driver-side, front windshield of the vehicle, or a valid DMV disabled person license plate or placard. Permits may be purchased at a campus Admissions & Records Office or from the campus Parking & Security Services Office on the Rocklin campus. Students receiving financial aid may be eligible to purchase a permit for a reduced fee. Contact the Financial Aid Office for details.

**Regular Semester Fee:**

<table>
<thead>
<tr>
<th>Service</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Permit—Rocklin and Nevada County</td>
<td>$40.00</td>
</tr>
<tr>
<td>Standard Permit—Tahoe-Truckee</td>
<td>20.00</td>
</tr>
<tr>
<td>Standard Permit—Financial Aid Eligible</td>
<td>20.00</td>
</tr>
<tr>
<td>Carpool Permit</td>
<td>20.00</td>
</tr>
<tr>
<td>Motorcycle Permit</td>
<td>30.00</td>
</tr>
<tr>
<td>Student Center Fee</td>
<td>10.00</td>
</tr>
</tbody>
</table>

**Summer Session:**

<table>
<thead>
<tr>
<th>Service</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Permit—All Campuses</td>
<td>20.00</td>
</tr>
<tr>
<td>Standard Permit—Financial Aid Eligible</td>
<td>20.00</td>
</tr>
</tbody>
</table>

### Carpool Permit

Daily permits are available for $2.00 per day at permit dispensers located in parking lots.

Parking permits are non-transferable. A parking permit does not guarantee that a parking space will be available. Citations will be issued to vehicles without permits and for violations of district policy and state law. For more information regarding parking fees, rules, or refunds, contact the Parking and Security Services Office at (916) 660-7120, or visit the website at www.sierracollege.edu/StudentServices/CampusSecurity.

### Student Body Photo ID Card/Activity Sticker

Students who have paid all registration fees are eligible for Student Body Photo Identification Cards. The cards are issued at either the Rocklin, Nevada County or Tahoe-Truckee Campus Admissions & Records Office or the Nevada County Campus Bookstore. Students are required to have the photo ID to check out materials at the Sierra College Library and to use the Mathematics Laboratory, Testing Center, and Instructional Laboratories. There is no fee for the ID card.

A Student Body Activity Sticker may be purchased each fall and spring semester for $10.00. The sticker, when affixed to the ID card, provides student discounts at campus activities, performances, and athletic events, discounts at local participating businesses, and access to wireless Internet service at specific locations on campus. The sticker may be purchased at the Rocklin or Nevada County Campus Admissions and Records Office. Contact the Rocklin Campus Life Office at (916) 660-7380 for further details including refund information.

### Student Center Fee

The mandatory Student Center Fee is designated solely for the purpose of funding and operating a student center. The fee, charged for the fall and spring semesters, is $1.00 per unit, to a maximum of $5.00 per semester. Exemptions are given to:
- Recipients of Board of Governor’s Fee Waivers; and
- Students enrolled exclusively in noncredit courses.

### Additional Semester Expenses*

The following are approximate costs of other fees and expenses for a full-time student for one semester:

- Room and Board (on-campus): $3,500.00
- Books and Supplies: $400.00
Refunds
Enrollment, health and student center fees are refundable to students who are dropped or drop themselves from full-term classes by the published deadline. For specific short-term class refund deadlines, students should refer to their printed student schedule/bill, check their mySierra account, contact their professor or contact an Admissions & Records Office. Note: Refunds are not issued to students who drop or are dropped from classes by their professors after the census day.

Nonresident Student Tuition is refundable for reduction of unit load if the student withdraws from full-semester classes during the first two weeks of a semester. Short-term classes have their own deadlines.

One-half of Nonresident Student Tuition is refundable if the student withdraws from Sierra College within the first six weeks of a semester, or the first two weeks of a summer session.

Parking Permit—Applications for refunds will be accepted during the first two weeks of a semester or the first three days of a summer session. Applicants must present their parking permit to a campus Parking & Security Services Office along with a completed parking refund request form. Allow six weeks for refund.

Hope Scholarship and Lifetime Learning Tax Credits
In accordance with the Taxpayer Relief Act of 1997, Sierra College mails Tax Form 1098-T at the end of January to each student who paid enrollment fees in the prior calendar year and who was officially enrolled as of the course census date. This information is also provided to the IRS. It is the student’s responsibility to provide proof of payment in accordance with IRS regulations. Please check with a tax preparer to determine if you are eligible for either of these tax credits or contact the IRS directly at (800) 829-1040 or at www.irs.gov. The records of students who have chosen an assigned identification number are not reported.
Academic and Transfer Credit Programs

Advanced Placement Examination
Sierra College accepts Advanced Placement Examinations passed with a score of three or higher. Currently enrolled students may be awarded up to six units of credit per exam upon submission of official exam results. The amount of credit awarded is based on the recommendations of the American Council on Education. Credit is awarded for a Sierra College course or courses; as general education credit toward one or more areas of the associate degree; or as elective credit.

Transfer students are cautioned that, regardless of Sierra College policy, some institutions determine Advanced Placement credit based on their own local policies and may recalculate credit. For further information please consult a counselor. To request credit, students must submit a General Student Petition and request that the College Board send official Advanced Placement Examination results to a Sierra College Admissions & Records Office (College Code 4697).

Air Force ROTC
Air Force Reserve Officer Training Corps is available to Sierra College students through a program offered at California State University, Sacramento. The CSUS Department of Aerospace Studies offers two-, three-, and four-year programs leading to a commission in the United States Air Force. All coursework is completed on the CSUS campus. Scholarships are available to qualified students. Application to the program should be no later than the first semester of the sophomore year. Juniors may apply under certain conditions. Contact the CSUS Unit Admissions Officer at (916) 278-7315 for information.

College-Level Examination Program (CLEP)
Students with scores of 500 or better on College-Level Examination Program (CLEP) tests covering the general areas of Social Sciences and History, Humanities and Natural Sciences may receive 6 units of elective credit for each score; a maximum of 18 units may be granted. To request credit, students must submit a General Student Petition and an official copy of the exam scores to a campus Admissions & Records Office. Credit granted has no bearing on the student’s GPA. Students must complete 12 units at Sierra before CLEP credit will be awarded.

CSU GE and IGETC Certifications
Students transferring to California State Universities have the option of completing the CSU General...
Education-Breadth pattern to meet lower-division general education requirements. Students admitted to a CSU campus with full certification may not be held to any additional lower-division general education requirements. Upon transfer, students must take nine units of upper-division general education courses. The CSU GE-Breadth course lists for all California Community Colleges are available at http://www.assist.org. Students may request that a General Education Certification be sent to the transfer CSU along with the final Sierra College transcript.

The Intersegmental General Education Transfer Curriculum (IGETC) provides an option for students to fulfill lower-division general education requirements before transferring to either a CSU or a UC campus. Engineering students and students completing majors that have extensive lower-division unit requirements are advised to focus on completing the pre-major requirements while meeting minimum admission requirements. Students transferring to a CSU campus may choose to use the CSU GE-Breadth pattern in lieu of IGETC, as nearly all of the IGETC coursework is embedded in the CSU GE-Breadth pattern. The IGETC course lists for all California Community Colleges are available at www.assist.org. Students may use certain Advanced Placement (AP) Examinations with scores of 3 or higher and International Baccalaureate (IB) Examinations with scores of 5 or higher to meet some areas of the IGETC. Students may request that an IGETC Certification be sent along with the final Sierra College transcript. See a counselor for more information on either of these transfer general education certification programs.

Honors Courses
Many courses offered at Sierra College may, with the instructor’s permission, be taken for Honors credit. Students who are interested in a more challenging classroom experience may contract with a willing instructor for honors credit. Completion by a student of the Honors contract together with an earned course grade of A or B will result in a notation on the student’s transcript indicating that the course was passed “With Honors.” For more information contact Jennifer Kattman, Chair, Honors Committee, or a campus counseling office.

International Transcript Acceptance
Students wishing to receive credit at Sierra College for courses completed at an international institution must request and pay for an evaluation of their international transcript(s) through one of the following agencies:
• Educational Records Evaluation Service
• International Education Research Foundation, Inc.
• World Education Services, Inc.

The evaluation must include a course by course review which determines semester unit value, grade and lower/upper division status. In most cases, students are granted elective credit only for lower division course work completed at international institutions. No credit is granted for upper-division courses. Students wishing to be granted credit for specific general education or major courses must submit course descriptions in English with course substitution petitions.

Military Service Credit
A veteran who was on active duty one year or longer and received an honorable discharge may request 2 units of health education and 3 units of elective credit for military service to be applied toward an associate degree. Credit will not transfer to a four-year university and will have no bearing on the student’s GPA. To request credit, students must submit a General Student Petition and a DD-214 form to an Admissions & Records Office. Students must complete 12 units at Sierra before military credit may be awarded.

Veterans receiving VA educational benefits through the Sierra College Veterans Services Office must apply for military credit by the end of their second semester of enrollment, regardless of the number of units completed at Sierra.

Study Abroad
Since the Study Abroad Program began at Sierra College in 1986, a number of our students have pursued summer or semester studies in Argentina, Australia, Austria, China, Costa Rica, England, France, Greece, Italy,
Mexico, Peru and Spain. Students have earned credit for academic work while learning about another culture through direct experience.

Courses are taught by Sierra College faculty, with foreign instructors teaching as necessary. Most courses taught abroad transfer to four-year colleges and universities throughout the U.S. as part of the articulated California Community College curriculum.

To learn about foreign study opportunities, contact Christine Vona, Study Abroad Coordinator, (916) 660-8026.

Transfer Articulation Agreements
Sierra College maintains formal articulation agreements with many transfer colleges and universities. These agreements specify how courses will be accepted at the transfer institutions. Articulation agreements with California State University and University of California campuses may be viewed at www.assist.org; this information should be interpreted with the assistance of a Sierra College counselor.

Transfer Credit Acceptance
Official transcripts from regionally accredited institutions will be evaluated for transferable lower-division coursework. Appropriate units and subject content will be applied to major and general education areas to meet graduation requirements. Students who completed courses at other colleges should meet with a counselor to determine which courses fulfill Sierra College’s degree or certificate requirements.

Transfer credit is also used to fulfill prerequisite requirements. To ensure timely and accurate posting of transfer units to your Sierra College record, please submit a sealed official transcript to a campus Admissions & Records Office.

2 + 2 Articulation Program
2+2 Articulation is a planned process linking programs and services to assist students in making smooth transitions from secondary to postsecondary levels without experiencing delays or duplication of learning. 2+2 articulation agreements have been developed with many area high school and ROP programs which make it possible for students to gain college credit for specified courses once they have enrolled at Sierra College and have completed other requirements of the agreement. Contact a counseling office for further information.
Student Enrollment and Attendance

Attendance
Regular attendance and participation in all classes are important student obligations. Attendance is an integral part of student success. **Attendance at First Class through Census Date:** Students must attend the first scheduled meeting of each class in which they are enrolled or risk being dropped by the professor. Instructors shall clear their rolls of inactive students not later than the end of the last business day before the census day (typically Monday of the third week for full-term classes). Students who are dropped or drop themselves by the published, class-specific Add/Drop deadline are entitled to a refund.

**Attendance during the Semester/Session:** A professor has the right to drop any student who has accumulated excessive absences. Generally, excessive absences are defined as 10% of the total hours of class time or the equivalent of two weeks of a full-term class. The application of excessive absences may vary by department and/or instructor according to the demands of the curriculum. Any exceptions to this policy will be communicated to students by professors in the class syllabus. A student dropped by a professor in error may petition for reinstatement to the class. Following the Add/Drop deadline, students who choose to stop attending class(es) retain the responsibility of officially withdrawing themselves from the class(es).

Dropping and Withdrawing from Classes
Students may drop or withdraw from classes online through mySierra or in person at a campus Admissions & Records Office. Students should refer to the website for specific drop and withdrawal deadlines.

Full-term classes dropped by the Add/Drop deadline (within the first two weeks of the semester) will not appear on the student’s academic record. Short-term and summer session classes have class-specific deadlines which can be found on the printed student schedule/bill, by checking mySierra, or by verifying with an Admissions & Records Office. Instructors shall clear their rolls of inactive students not later than the end of the last business day before the census day. Students who are dropped or drop themselves by the Add/Drop deadline are entitled to a refund.

Classes withdrawn from after the add/drop period will appear on the student’s record and cannot be removed. It is the student’s responsibility to withdraw from classes that they do not wish to attend.

A student may withdraw up until the withdrawal deadline for the class. Students enrolled after the last day to withdraw will receive a grade for the class.

Title 5 limits the number of times that a student may withdraw and receive a “W” symbol on the student’s academic record for enrollment in the same course.

Enrollment Status
Students are responsible for their enrollment status at all times. Credit will not be given for courses in which the student is not officially enrolled. For purposes of student enrollment verifications, a full-time student is considered to be one enrolled in 12 or more units during a semester. A half-time student is one enrolled in 6–11.5 units and a part-time student is one enrolled in less than 6 units. For the summer session, 4 units is considered full-time; however, this does not apply in the determination of financial aid eligibility.

Illness or Emergency Leaves of Absence
Sierra College does not grant medical leaves of absence. Students who are absent for at least two consecutive weeks due to illness should obtain written documentation from their care provider to give to class professors. Regardless of illness, the student is responsible for all missed assignments and examinations.

Open Courses
It is the policy of Sierra College that, unless specifically exempted by statute, every course offered and maintained by the District shall be fully open to enrollment and participation by any person who has been admitted to the college and who meets such prerequisites established pursuant to Title 5.

Overlapping & Multiple Course Enrollment
Students may not enroll in credit courses which meet at the same or overlapping time. Additionally, students may not enroll in more than one class section of the same course in the same semester or session. This is also true of courses designated as repeatable, unless the class sections don’t have overlapping timeframes.
Academic Regulations

Academic Renewal
Past substandard academic performance may not, for a variety of reasons, be reflective of a student’s subsequent demonstrated ability. Academic renewal permits the alleviation of all or part of such substandard academic performance at Sierra College in cases where the past work may impair the student’s progress toward a legitimate educational or career goal. Grades approved for renewal will remain on the student’s transcript; however, the grades will no longer be included in the computation of the student’s GPA.

A request for academic renewal must meet the following guidelines:
1. The student must have completed a minimum of 18 units with a cumulative grade point average of 2.5 or higher in all courses attempted since taking the courses to be alleviated.
2. A minimum of 12 months must have elapsed since the substandard grades were earned.
3. The number of units alleviated may not exceed 30 units, or be in excess of the number of units satisfactorily completed by the student since taking the courses to be alleviated, whichever is lower.
4. Academic Renewal can only be applied to “D” and “F” grades.

A student seeking academic renewal must meet with a Sierra College Counselor to complete an Academic Renewal petition. The petition must be signed by the counselor before it is submitted to a campus Admissions & Records Office. If any of the required 18 units are earned at another college, an official transcript must be submitted with the petition. The Academic Standards Committee will review the request. For further information, contact a counselor.

Auditing Courses
Auditing allows students to attend a course without officially registering. There is no record of attendance and no grade will be issued. Completing assignments and tests is not required. Students may audit one course per semester with the instructor’s permission. Please note priority is always given first to students who register for credit and auditing is on a space available basis. Courses with field trips may not be audited.

A $15 per unit non-refundable audit fee will be charged along with the health fee and any other appropriate course fees. Contact an Admissions & Records Office for an audit petition and further information.

Credit By Examination (Challenge Petition)
Students may request to challenge a course offered by the college if they have prior knowledge or experience in the subject area. To be eligible to challenge a course, a student must:
1. Currently be registered and in good standing;
2. Currently be enrolled in at least one course other than the course being challenged;
3. NOT be enrolled in the course being challenged;
4. Not have completed nor enrolled in a more advanced course;
5. Have obtained approval of the challenge request from both the course professor AND division dean;
6. Not have challenged more than 15 units; and
7. Complete at least one course other than the course being challenged.

A course in which a student enrolls and receives a grade of “D,” “F,” “NC,” “NP,” or “I,” may not be challenged at a later date, nor may a course be challenged again to improve the grade. Units received through the challenge process do not count toward the 12 units in residence required for the associate degree or the full-time enrollment necessary for honor roll determination. Note: Some private institutions will not accept course credit earned through the challenge process.

To request a challenge, a student must file a “Credit by Examination” petition within the first four weeks of the semester or the first week of the summer session. Regulations are stated on the Credit by Examination petition. It is important to note that many courses are not available for the challenge process.

Appropriate challenge fees must be paid when the petition is submitted. For California residents, this is equivalent to the enrollment fee. Nonresident and international students must also pay the appropriate nonresident student tuition. BOGW fee waivers do not cover challenge fees. Fees paid are non-refundable.

Directory Information
Directory information includes name, address, phone number, date and place of birth, major, participation in
officially recognized activities and sports, weight and height of athletic team members, dates of attendance, degrees and awards received and most recent previous school attended. Upon request, the college may release this information to military recruiters and the media. Students who do not wish this information to be released must file a “Restriction to Access” with an Admissions & Records Office during the first two weeks of the semester or the first three days of summer session.

Grade Changes
The instructor’s determination of student grades shall be final except in cases of mistake, fraud, bad faith, or incompetence. “Mistake” may include, but is not limited to, clerical errors and errors made by an instructor in calculating a student’s grade. “Fraud” may include, but is not limited to, inaccurate recording or change of a grade by any person who gains access to grade records without authorization.

The removal or change of an incorrect grade from a student’s record shall only be done pursuant to Education Code 76232 or by alternative method that ensures that each student shall be afforded an objective and reasonable review of the requested grade change.

Provisions will be made to allow another faculty member to substitute for the instructor if the student has filed a discrimination complaint, if the instructor is not available or where the district determines that it is possible that there may have been gross misconduct by the original instructor. Students who are requesting a grade change due to alleged harassment or discrimination shall refer to Administrative Procedure 3435. In the case of fraud, bad faith or incompetence, the final determination concerning removal or change of grade will be made by the Dean, Student Services. In all cases, the instructor who first awarded the grade will be given written notice of the change.

Change of Grade from Evaluative Symbol to Evaluative Symbol
Students wishing to challenge an evaluative grade received in a course (A, B, C, D, F, P, NP) must submit a change of grade request within one year after completing the course for which the grade change is being requested. After this period, if there are extenuating circumstances (i.e., verified cases of accidents, illnesses, or other circumstances beyond the control of the student), a change of grade request may be submitted to the Academic Standards Committee; however, the period for a request may not exceed three years after the completion of the course:

Procedures Within One Year:
• A student shall file a Grade Change Petition with an Admissions and Records Office within one year after completing the course. Specific reasons for the request must be stated.
• The petition must be approved and signed by the appropriate instructor and dean. The instructor must cite a reason consistent with one of the conditions in Education Code 76224.
• Approved grade change petitions will be processed by the Admissions and Records Office.

Procedures After the First Year, but Within Three Years:
• If there are extenuating circumstances, a student shall file a Grade Change Petition with an Admissions and Records Office up to but no later than three years after the completion of the course. In addition to procedures within one year listed above, the student must also attach to the petition sufficient documentation proving an accident, illness, or other circumstances beyond their control that disallowed them from submitting the grade change petition within one year of the course completion date.
• The Admissions & Records Office shall validate the required data and forward the petition to the Academic Standards Committee for consideration.

Change of Grade from Evaluative Symbol to Non-Evaluative Symbol
To change an evaluative grade (A, B, C, D, F, P, NP) to a non-evaluative symbol (W, I, IP), an extenuating circumstance must be verified in writing. Extenuating
circumstances are verified cases of accidents, illnesses, or other circumstances beyond the control of the student. A request for a change of grade to a non-evaluative symbol may not exceed three years after the completion of the course.

**Procedures Within Three Years:**
- A student shall file a Grade Change Petition with an Admissions and Records Office indicating the specific change requested.
- The petition must be supported and signed by the appropriate instructor.
- The student must attach sufficient documentation proving an accident, illness, or extenuating circumstances beyond the control of the student.
- The Admissions & Records Office will validate the required data and confirm the satisfaction of the conditions specified by California Code of Regulations, Title 5, Section 55025.
- The petition will be forwarded to the Academic Standards Committee for consideration.

**Change of Grade from Evaluative or Non-Evaluative Symbol to a Drop**
- The student shall file a Grade Change Petition with the Admissions & Records Office indicating the specific change that is requested.
- The petition must be filed within 30 days after the end of the class or by June 30th of the academic year in which the grade was received, whichever is earlier.

**Grade Points and Units**
The unit of work at Sierra College is the semester hour. Courses require a minimum of three hours of student work per week, per unit for the equivalent of an 18 week semester. One unit of lecture requires one hour of class time and two hours of outside study or homework per week. As laboratory courses require minimal study/work outside of class, one unit of laboratory requires three hours of class time per week. Expected hours per week may be adjusted based on the length of the term. All college work is measured in terms of both quantity and quality. The measure of quantity is the unit and the measure of quality is the grade point.

Grade points are awarded as follows:
- Grade of A—4 points per unit;
- Grade of B—3 points per unit;
- Grade of C—2 points per unit;
- Grade of D—1 point per unit;
- Grade of F—0 points per unit.

Grade point average (GPA) is calculated by dividing the total number of grade points by the total number of units attempted.

Nondegree-applicable credit courses shall not be included in calculating student degree-applicable grade point average.

**Grading and Academic Record Symbols**
Pursuant to section 55023 of Title 5, the grading practices of the District shall be as follows:

**Evaluative Symbols**
- A = Excellent
- B = Good
- C = Satisfactory
- D = Less than satisfactory
- F = Failing

**Non-Evaluative Symbols**
- P = Passing (at least satisfactory); units awarded not counted in grade point average; has the same meaning as “CR,” as that symbol was defined prior to the Summer 2009 term.
- NP = No Pass (less than satisfactory or failing); units not counted in grade point average; has the same meaning as “NC,” as that symbol was defined prior to the Summer 2009 term.
- I = Incomplete academic work for unforeseeable, emergency and justifiable reasons at the end of the academic term; not used in calculating units attempted or for grade points.
- IP = The In Progress symbol denotes that the class...
extends beyond the normal end of an academic term. It indicates that work is in progress but that assignment of an evaluative symbol must await its completion.

RD = The Report Delayed symbol is used when there is a delay in reporting the grade of a student due to circumstances beyond the control of the student.

W = Withdrawal from class or college is authorized through two-thirds of the course term. The academic record of a student who remains in class beyond that date must reflect a grade other than a “W.” Courses dropped prior to census, or its equivalent for short-term courses, will not appear on the student’s academic record.

MW = Military Withdrawal. Military withdrawal is assigned when a student who is a member of an active or reserve United States military service receives orders compelling a withdrawal from courses. Upon verification of such orders, military withdrawal may be assigned at any time after the Add/Drop period. Military withdrawal is not counted in progress probation and dismissal calculations.

Since professors have the responsibility for evaluating student performance and assigning final grades, students are encouraged to discuss their grades with professors at any time. All grades are final and are not subject to change except as outlined in Education Code Section 76224.

Grades will be available approximately four weeks after the end of each semester. Students may access grades on the Sierra College website at www.sierracollege.edu.

Incomplete Academic Work
If, due to unforeseeable, emergency and justifiable reasons, a student has not completed academic work at the end of a semester/session, an incomplete “I” symbol may be requested. It is the primary responsibility of the student to request an incomplete. A student may obtain an Incomplete Petition from a campus Admissions & Records Office and submit it to the professor for approval. If approved, the professor will file a written record of the conditions for removal of the “I” and the grade assigned in lieu of its removal. The student may not re-enroll in the course, but instead works with the professor to complete the required academic work no later than one year after the end of the term in which the incomplete was assigned. The student must submit a grade change petition upon completion of the work. A final grade will be assigned when the work stipulated has been completed and evaluated, or when the time limit for completing the work has passed.

Incomplete symbols will not be used in calculating units attempted nor for grade point averages.

Pass/No Pass Grading
“Pass/No Pass” grades exist to permit students to attempt a class in which they are interested but feel the risk of failure may be high. Students may elect to take one class per term on a pass/no pass basis unless the catalog expressly limits the grading for a particular course to a letter grade only (A, B, C, D, F). It is important to keep in mind that some CSU and UC campuses may have limitations on the number of pass/no pass courses that may be used to meet degree requirements. The UC system allows a maximum of 14 semester units taken pass/no pass to satisfy the minimum admission requirement of 60 transferable semester units. Pass/No Pass grading is subject to the following regulations:
1. The course must be outside the student’s major.
2. Students must submit a Pass/No Pass petition by the end of the first 30% of the class term. Check on mySierra or with a campus Admissions & Records Office for deadlines.
3. A grade of “A,” “B,” or “C” will become a “P” (Pass); a grade of “D” or “F” will become an “NP” (No Pass).
4. Units earned with a P grade are not used to calculate grade point averages.
5. Units attempted for which NP is recorded are used in determining probation and dismissal.
6. A non-repeatable class in which a P was received may not be repeated. A class in which an NP was received may be repeated on a Pass/No Pass basis only.
7. Once the class has begun, the filed petition for Pass/No Pass cannot be withdrawn nor the decision be reversed; however, changes in major may result in P/NP grades being changed to letter grades after review by the Academic Standards Committee.

Prerequisites, Corequisites and Advisories
It is the intent of Sierra College to guide students to courses in which they will have the greatest chance of academic success. Therefore, some courses listed in this catalog have either a prerequisite, a corequisite, or advisory preparation. If no prerequisite, corequisite or advisory information is indicated there are no conditions of enrollment. The following are the definitions for
prerequisites, corequisites and advisory preparation:

“Prerequisite” means a condition of enrollment that students are required to meet in order to demonstrate current readiness for enrollment in a course or educational program. “C” is the designated minimum grade for prerequisite courses.

“Corequisite” means a condition of enrollment consisting of a course that students are required to simultaneously take in order to enroll in another course.

“Advisory” means a condition of enrollment that students are advised but not required to meet before or in conjunction with enrollment in a course or educational program.

Students who have met the prerequisite or corequisite at another college, must make evidence of this completion available. Students who cannot demonstrate that they have met a prerequisite or corequisite may be dropped from registration in a course.

Any prerequisite or corequisite may be challenged by a student on one or more of the grounds listed below:
1. The student has the knowledge or ability to succeed in the course or program despite not meeting the prerequisite or corequisite;
2. The student will be subject to undue delay in attaining the goal of his or her educational plan because the prerequisite or corequisite has not been made reasonably available;
3. The student believes that the prerequisite or corequisite has been established in violation of regulations and/or the College's policy and procedures; or
4. The student believes that the prerequisite or corequisite is unlawfully discriminatory or is being applied in an unlawfully discriminatory manner.

To challenge a prerequisite or corequisite, students must obtain a Prerequisite Appeal form from an academic division office or a Counseling Center. Once submitted, the appeal will be reviewed within five working days. If the appeal is approved, the student will be permitted to enroll in the course or program.

President’s Honor Roll and Dean’s List
Full-time students earning a grade point average of 3.5 or better are included on the President’s Honor Roll each semester. Those students who earn a grade point average of 3.0 to 3.499 are placed on the Dean’s List. To qualify for the President’s Honor Roll or the Dean’s List, students must complete 12 or more units of graded work (A, B, C, D, or F) at Sierra College. Credit by Examination and courses taken Pass/No Pass do not apply.

Probation, Dismissal & Readmission

Academic Probation: A student who has attempted at least 12 units at Sierra College and has earned a cumulative grade point average of less than 2.0 in all units attempted, shall be placed on academic probation. “All units attempted” is defined as all units of credit for which the student is enrolled at Sierra College. Students on academic probation may be held to a student educational plan developed with a counselor. Probation is posted on the student’s permanent record.

Progress Probation: A student who has enrolled in at least 12 units at Sierra College and has entries of “W,” “I,” “NC” or “NP” in fifty percent or more of the total units attempted, shall be placed on progress probation. Students on progress probation may be held to a student educational plan developed with a counselor. Probation is posted on the student’s permanent record.

Students on academic OR progress probation may not enroll in more than 13 units. Exceptions to this limit may only be made upon petition and under extreme circumstances, at the discretion of the Dean, Student Services. Students entering a second or later semester of probation may be limited to fewer units, or to a list of specific courses as listed on the student educational plan.

Removal from Probation: Students on academic probation shall be removed from probation when the cumulative Sierra College grade point average reaches 2.0 or higher.

Students on progress probation shall be removed from probation when the percentage of “W,” “I,” “NC” and “NP” units at Sierra College drops below fifty percent.

Dismissal: Students on academic probation shall be subject to dismissal if their cumulative grade point average is less than 2.00 in all units attempted in each of three consecutive semesters*, excluding summer, or if their cumulative grade point average is less than 1.00 in each of two consecutive semesters attended, excluding summer.

Students who are on progress probation shall be subject to dismissal if the percentage of “W,” “I,” “NC” and “NP” units reaches or exceeds fifty percent in at least three consecutive semesters* attended, excluding summer.

Upon notification of dismissal, the student will not be eligible to enroll in any classes for one semester. Dismissal is posted on the student’s permanent record.

*For the purposes of dismissal, semesters shall be considered consecutive on the basis of the student’s enrollment after the drop date, so long as the break in the student’s enrollment does not exceed one full primary term.
Readmission: A student who has been dismissed may request readmission after one semester. Readmitted students return to probation in their first semester, and may be held to a limit of units below 13, or to specific courses as approved by the counselor. Students who have been dismissed twice will have their petitions reviewed by the Dismissal Committee, and may have their readmission postponed or denied if, in the judgment of the committee, the student has not presented sufficient evidence that the problems leading to the past dismissals have been rectified.

Remedial Coursework Limit
Students are limited to no more than thirty (30) semester units of credit for remedial coursework. These nondegree-applicable basic skills credit courses are taught in reading, writing, computation, and English as a Second Language, and are numbered in the 500 series. Students enrolled in English as a Second Language, and students identified by the District as having a learning disability are exempted from the unit limitation. In addition, students may petition for a waiver of the unit limitation if they show significant, measurable progress toward the development of skills appropriate to enrollment in degree-applicable credit courses. For further details, contact a counselor.

Repetition of Courses
State-mandated regulations limit the repetition of courses taken at Sierra College. Students found to be enrolled in courses beyond the legal limitation will be dropped and the class fees refunded.

Transfer students are cautioned that, regardless of Sierra College policy, some institutions may recompute GPA based on their own course repetition policies.

Course repetition is only allowed under the following conditions:

Course repetition to alleviate substandard academic work
1. If a “D,” “F,” “NC” or “NP” was received in a non-repeatable course, students may repeat the course up to two times in an effort to alleviate substandard academic work. Under no circumstances may a student repeat a course more than two times, unless significant lapse of time or extenuating circumstances exist. Upon completion of a repeated course the most recent grade earned will be computed in the GPA, regardless of the grade received. The previous attempt remains on the transcript, insuring a true and complete academic history.
2. If a course is identified as repeatable, and a student earns a grade of “D,” “F,” “NC” or “NP,” in one or more of the enrollments, the course repeat limitation (e.g., may be taken four times for credit) still applies.

3. Courses offered for a variable number of units must be repeated for the same or greater number of units.

Course repetition due to extenuating circumstances
A student may petition to repeat a course based on a finding that the student’s previous grade (whether substandard or passing) was, at least in part, the result of extenuating circumstances. Extenuating circumstances are verified cases of accident, illness or other circumstances beyond the control of the student.

The petition is filed with an Admissions & Records Office and must indicate the extenuating circumstances warranting the repeat along with counselor and/or instructor review, verification and recommendation. When repetition is approved, the previous grade and credit will be disregarded in computing the student’s GPA.

Course repetition due to significant lapse of time
A student may be permitted or required to repeat a course one time in which a “C” or better grade was earned if:
1. There has been a significant lapse of time since the grade was received. Significant lapse of time is defined as a minimum of seven years; each discipline has the authority to institute significant lapse of time as less than seven years by program and/or course. A list of exceptions is maintained in the Instruction Office; or
2. The District has established a recency prerequisite for a course or program; or
3. An institution of higher education to which a student wishes to transfer has established a recency requirement that the student cannot satisfy without repeating the course.

When a student needs to repeat an activity course due to significant lapse of time, each repetition attempt will be counted toward the established repetition limits. However, if a student has already exhausted the number of permitted repetitions, then one additional repetition due to significant lapse of time may be permitted.

When a course is repeated due to significant lapse of time, the new grade and unit(s) will be included in the student’s grade point average and total units completed. The grade and unit(s) from a previous attempt will be disregarded.

Repeatable courses
1. Students may repeat courses that are identified as repeatable in the course description. Either the course content differs each time it is offered, or it is an activity...
course in which the student meets course objectives by repeating a similar primary educational activity and gains an expanded educational experience each time the course is repeated. The grade received each time shall be included for purposes of calculating the student’s GPA. If a student earns a grade of “D,” “F,” “NC” or “NP,” in one or more of the enrollments, the course repeat limitation (e.g., may be taken three times for credit) still applies.

2. Students with disabilities can repeat special classes for students with disabilities any number of times when an individualized determination verifies that such repetition is required as a disability-related accommodation.

3. Students are allowed to repeat courses that are necessary to meet legally mandated training requirements as a condition of continued paid or volunteer employment. These courses may be repeated for credit any number of times, and the grade received each time shall be included for purposes of calculating the student’s grade point average. These courses are identified as repeatable in the course description.

4. Students are permitted to repeat Occupational Work Experience courses any number of times as long as the 16 unit limitation is not exceeded. Occupational Work Experience includes all courses numbered 95 and Personal Development 94. The grade received each time shall be included for purposes of calculating the student’s GPA. These courses are identified as repeatable in the course description.

Student Records

Student records are maintained in the Admissions & Records Office. Students are responsible for regularly checking their mySierra account to ensure receiving registration appointments, financial aid check disbursements, etc.

The Family Education Rights and Privacy Act (Section 438, Public Law 93-380) requires educational institutions to provide: students access to official educational records directly related to the student; explanation of education records and an opportunity for a hearing to challenge such records on the grounds that they are inaccurate, misleading or otherwise inappropriate; that the college must obtain written consent of the student before releasing personally identifiable information about the student from records other than a list of persons and agencies specified by the Act; and that these rights extend to present and former students of the college. The act provides that the college may release certain types of directory information (see Directory Information). Students wishing to review their education records must make written requests listing the item or items of interest to the Dean, Student Services. Only records covered by the Act will be made available within 15 working days of the date of the request.

Transcripts

The first two official academic transcripts that are requested are free of charge. Students may request transcripts through the following methods:

- Online at www.sierracollege.edu. Standard service requires five to seven business days to process upon receipt of a signed authorization form. The cost is $5.00 per transcript. Priority service, available at a cost of $15.00 per transcript, takes three business days to process upon receipt of a signed authorization form.

- Through the mail or in-person at a campus Admissions & Records Office. There is a processing fee of $5.00 per transcript.

Processing times do not include U.S. Postal Service mailing time. For more information on ordering transcripts, please visit the website or contact a campus Admissions & Records Office, (916) 660-7340 or (530) 274-5302.

Unit Overload

Students may not enroll in more than 18 units without submitting an overload request. To be granted an overload of up to 20 units, a student must:

1. Have completed 12 or more units with a 3.0 GPA.
2. Not be on probation.
3. Be eligible for ENGL 1A by assessment or satisfactory completion of ENGL A, ESL 30W, or equivalent.
4. Meet the reading proficiency requirement by assessment or satisfactory completion of ENGL 1B, 1C, 11, 50, N; HIST 35; PHIL 4; or equivalent.

If a student’s GPA is 2.8–2.9 and all other requirements have been met, student must have completed 30 or more college units.

If a student wishes to enroll in more than 20 units, in addition to the above listed requirements, a student must have completed 18 or more units, of which 15 units must have been completed in a single semester. The request will be reviewed for approval by the Dean, Student Services.
Student Services and Resources

Academic Foundations Program
The Academic Foundations Program is a combination of courses and support services that help students succeed in college and beyond. Students build skill level and knowledge in reading, writing, math, ESL, basic computer applications and finding, retrieving and evaluating information. The program provides:
- Placement in appropriate courses through assessment testing;
- Counselors who map out schedules that help students accomplish their goals;
- Courses with a slower pace, more one-on-one time with instructors and more labs and instructional assistants to provide extra help;
- Coordination between instructors and support services staff to provide students with learning disabilities testing, free one-on-one tutoring, drop-in Writing Center assistance and more;
- Instructors who meet periodically throughout the semester for training and discussion in order to help maximize students’ learning; and
- Workshops throughout the semester that help students improve their skills in many different areas.

Students enter the program primarily through assessment testing. After taking the assessment tests, students make an appointment for a one-hour orientation session, followed by a one-on-one appointment with a counselor who helps them enroll in courses suited to their particular skill level.

Even if students assess into higher-level courses, they can still choose to enroll in Academic Foundations courses in order to master concepts and achieve greater academic success across the curriculum.

For more information, call (916) 660-7224. Also, see the Remedial Coursework Limit, page 27.

Courses in the program include:
- CIS 1, 30 .......... basic computer skills
- CIS 5, 20 .......... keyboarding and document processing
- CIS 37 .......... basic online skills
- ENGL 501, A, N .. writing
- ENGL 560, 570, 50 .......... reading
- ESL 500, 510, 520, .. writing, grammar, 530, 540 .......... reading, listening
- LRDS 610 .......... learning disabilities assessment
- LIBS 10A, 10B .... finding information
- MATH 581 .......... arithmetic
- MATH 582 .......... pre-algebra
- MATH A .......... basic algebra
- PDEV 1 .......... college success
- PDEV 6 .......... career and life planning
- PDEV 8 .......... introduction to college

Assessment Center
The Assessment Center provides reading, English and mathematics skill assessments. Assessments help to determine skill level and are used to recommend appropriate course placement.

All first time college students must take the assessment tests which are offered by appointment only. After the application for admission has been processed and the student identification (ID) number received, students should call for an appointment:
- Rocklin Campus .......... (916) 660-7430
- Nevada County Campus .. (530) 274-5303
- Tahoe-Truckee Campus .. (530) 550-2225

Students must provide photo identification at the assessment testing appointment. Results are available immediately after testing and are accessible online via mySierra.

Transfer students who have completed assessments at other colleges may send results to the Assessment Center, or fax results to the Rocklin Campus at (916) 630-4513, or the Nevada County Campus at (530) 274-5307. Sierra College student ID number and contact information must be included on all submitted documents. Results must be received by the Assessment Center prior to the student registering for classes.

For more information, call (916) 660-7224. Also, see the Remedial Coursework Limit, page 27.

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Sierra College Bookstores
Sierra College Bookstores believe in supporting the needs of students, staff and community, and are dedicated to providing high-quality services to customers and to maintaining full-service bookstores. Textbooks for all Rocklin, Nevada County, Roseville Gateway and Tahoe-Truckee campus classes can be ordered online at http://whywaitforbooks.com. Sierra College merchandise, including t-shirts and sweatshirts, can also be ordered online. Books may be sold back at any time for up to 50% of the original selling price. No receipt is required and it doesn’t matter where the books were purchased.

Rocklin Campus Bookstore hours: Monday through Thursday from 7:30 a.m. to 6:30 p.m., Fridays from 7:30 a.m. to 4:30 p.m., with extended hours the first and last week of each semester; check the website for current hours. For further information call (916) 660-8200.

Nevada County Campus Bookstore hours: Monday through Thursday from 9:00 a.m. to 6:30 p.m., with extended hours the first and last week of each semester; check the website for current hours. For further information call (530) 274-5305.

Tahoe-Truckee Campus Bookstore Services: Books for all Tahoe-Truckee classes are available at the Rocklin Campus store or can be ordered online at http://whywaitforbooks.com. Please call (916) 660-8200 for more information.

Information regarding refund/return policies is available at any Bookstore location.

Cafeteria/Campus Dining
The Rocklin Campus Cafeteria is housed in the Campus Center. Hot and cold food service available in the cafeteria includes: deli bar, grill, pizza and a coffee bar. Hours are subject to change; see the website for current hours.

The Nevada County Campus Cafeteria, located in the “C” building, provides a variety of food services Monday through Thursday, including vending machines.

CalWORKs
The CalWORKs program provides support services focused on helping Temporary Assistance for Needy Families (TANF)/cash aid recipient students obtain the necessary education and skills to begin and enhance their career growth and achieve long-term economic self-sufficiency. The program provides eligible students with counseling, work study opportunities for on-campus and off-campus employment, assistance with campus services and referrals to public and private agencies as needed. The CalWORKs program objective is to assist students in achieving their educational and occupational goals. CalWORKs students may contact the Sierra College CalWORKs office at (916) 660-7367 or (530) 274-5322 in order to ensure that they meet their county CalWORKs requirements and can remain at Sierra College for educational training. Sierra College CalWORKs is not part of the county welfare department.

Career Connections
Career Connections offers resources to assist students in making career decisions, researching employment opportunities and developing job search skills. It houses a variety of printed materials, which includes information about current Sierra College majors, labor market trends, job search techniques, occupations, career decision making and employment. It is equipped with several interactive computerized career information systems which aid students in career development and planning, researching occupations and researching financial aid and scholarship information. Career development workshops related to career decision making and job search skills are offered each semester.

Career Connections also offers students a variety of experiential career exploration opportunities including informational interviews, job shadowing and internships. All of these opportunities are designed to help students explore career options and obtain first-hand information regarding their field of interest. Career Connections maintains a database of local professionals and businesses that have offered to assist students with their career exploration. There is also a listing of local professionals available to serve as guest speakers for classes or other forums.

Students are encouraged to visit Career Connections often as part of their regular study time and to take advantage of the materials and activities available to them. Members of the community who wish to use the computerized career information systems may access these resources for a fee. For additional information about Career Connections, call (916) 660-7481 for the Rocklin Campus, call (530) 274-5303 for the Nevada County Campus, or visit www.sierracollege.edu/careerconnections.

Sierra College Child Development Services
Sierra College offers several Child Development Programs for students and the nearby community. The Sierra College Child Development Centers serve as teacher training lab sites for Sierra College students pursuing
Cooperative Agencies Resources for Education (CARE)

The CARE program provides services for those EOPS students who are single heads of household, receiving CalWORKs cash aid, and have at least one child under the age of fourteen. Students may also be eligible if a dependent child in the family receives CalWORKs cash aid.

CARE students may receive, in addition to the services provided to EOPS students, an additional financial aid grant to be used for educationally related expenses such as child care, textbooks/school supplies, transportation, etc. Contact the Rocklin or Nevada County EOPS office for further information.

Counseling Services

Sierra College counselors provide academic advising, career and personal counseling to students and prospective students. Typical areas of concern to students are choosing majors or careers that are appropriate to their interests, abilities and values; coping with personal problems that may be causing stress and selecting courses in the proper sequence to meet requirements and educational goals. Counselors also teach classes designed to facilitate personal growth, college success and career exploration. See the Personal Development department in this catalog. In-person and online counseling is available by appointment and on a drop-in basis at each of the following locations. For appointment information call:

- Rocklin Campus (916) 660-7400
- Nevada County Campus (530) 274-5303
- Tahoe-Truckee Campus (530) 550-2225

Disabled Students Programs & Services

Additional support services are available to disabled students to ensure an equal opportunity to participate in the educational process at Sierra College. The goal is to help physically, communication and learning disabled persons achieve their educational objectives through counseling and other appropriate services.

For the Rocklin Campus or Roseville Gateway Center, call (916) 660-7460.

For the Nevada County Campus or Tahoe-Truckee Campus, call (530) 274-5330.

Distance Learning

Online and Television Courses

Distance learning courses are full-credit courses which allow students to complete college studies from the convenience of their own home. These courses are especially

careers working with children and families. Students are supervised by staff and faculty. All programs are staffed by certificated, nurturing teachers who view learning as an active process where children learn best and gain self-confidence when ample opportunities exist for direct hands-on experiences and decision making in a planned “play” oriented curriculum.

Sierra College offers State Preschool Programs at no cost to income eligible families. State Preschool serves 3 to 5 year olds and operates two sessions on the Rocklin campus, as well as two at Rock Creek Elementary in Auburn, one at the Sierra College-Nevada County Campus in Grass Valley and one at Cirby Elementary School in Roseville. State Preschool sites operate a three-hour morning and a three-hour afternoon session. Contact individual sites for hours of operation.

The Little Orchard Preschool on the Rocklin Campus is a private fee based program. It is open from 7:00 a.m. to 6:00 p.m. Monday through Friday. The program is designed for children from 2 to 5 years of age. Enrollment is determined on a first come, first serve basis, serving the community and children of Sierra College students and staff. The center offers preschool sessions as well as a full day program. Call (916) 624-3553 for a tour. Additionally, the Nevada County Campus operates a fee based program for preschoolers, ages 3 through 5.

For further information call:

- Rocklin Campus Child Development Center
  (Little Orchard) (916) 624-3553
- Rocklin Campus State Preschool
  (916) 660-8240
- Nevada County Campus Child Development Center
  (530) 274-5350
- Cirby State Preschool—Roseville
  (916) 783-0776
- Rock Creek State Preschool
  (530) 823-0380
appealing to students with busy schedules who have a
difficult time coming to campus on a regular basis. On-
line courses may be accessed from anywhere at anytime
through an Internet connection. Instructors typically
distribute course content on a weekly basis and require
students to maintain a high level of interaction through-
out the course. Television courses are broadcast live from
the Rocklin Campus Library and are distributed to cable
companies within the District, streamed live on the In-
ternet, and archived for two weeks on our iTunes U site.
Students are able to interact with their professor during
the live class via telephone. Distance learning support
and test proctoring are located in the Learning Resource
Center on the Rocklin and Nevada County campuses,
and in the library on the Tahoe-Truckee campus. For
more information, go to http://lrc.sierracollege.edu/dl.

Extended Opportunity Programs and
Services (EOPS)
Extended Opportunity Programs and Services (EOPS) is
a “student success” program that provides access to a col-
lege education and assistance with reaching an educational/career goal for those individuals affected by language, eco-
nomic and social disadvantages. Eligible students may re-
ceive academic, career and personal counseling, specialized
orientation, free tutoring, financial aid, priority registra-
tion, help with the cost of books, transportation assistance,
cafeteria meal cards and other services designed to support
the student to stay in school and achieve their goals. Stu-
dents must meet certain income and “educationally dis-
advantaged” criteria to receive services. Please stop by the
EOPS office at either the Rocklin (916) 660-7366 or Ne-
Vada County (530) 274-5306 campus for further informa-
tion and application assistance.

Health Services
Sierra College Health Centers offer a wide variety of ser-
dices. Nurse practitioners, mental health counselors and
a physician staff the clinics. Students are encouraged to
utilize these services, which include:
• Education about healthy living and disease prevention;
• Evaluation and treatment of students, who are ill, in-
jured or need family planning;
• Referrals to on-campus and community resources;
• Needed laboratory testing;
• Mental health counseling;
• Immunizations; and
• Some prescriptions at reduced cost.
The Rocklin Campus Health Services Clinic is located
in the Winstead Center. For further information call
(916) 660-7490.
The Nevada County Campus Health Services Clinic
is located in N3-101. For further information call
(530) 274-5317.

Housing
Sierra College is one of the few community colleges in
California that offers the unique experience of residence
campus living. Campus housing consists of two residence
facilities on the Rocklin Campus, North Hall and U-Building. North Hall is a two-story co-ed residence hall and U-Building is a single story men’s res-
idence hall. A total of 144 students live in the residence
halls in double occupancy rooms.

In North Hall, two double rooms share a bathroom.
U-Building residents share a community style restroom
facility. A large recreation room, kitchenette and laundry
facilities are available for residents. Basic utilities are in-
cluded as well as a meal plan for use in the cafeteria. In-
room telephones are each student’s responsibility. Since
campus housing is limited, applications should be filed as
early as possible. Campus housing applications and infor-
mation may be obtained by calling the Housing Office at
(916) 660-7389 or online at www.sierracollege.edu/Stu-
dentServices/housing. The Housing Office is located in
the Z Building.

Student On-Campus Job Center
The Financial Aid office at the Rocklin Campus and
at the Nevada County Campus assist currently enrolled
Sierra College students in obtaining part-time jobs
on campus.

Currently, the college offers three on-campus employment
programs. These are:

Federal Work Study—Students must qualify under
Federal guidelines by completing the FAFSA.

District Student Help—This program is to assist stu-
dents who do not qualify for Federal Work Study.
Students must be enrolled in at least six units and
maintain a 2.0 GPA.

CalWORKs Work Study—Students must be currently
receiving TANF or CalWORKs Assistance.

All programs pay on the Temporary Employee
wage scale. Each program has special enrollment and
academic requirements.

For further information regarding these programs,
contact the Rocklin Financial Aid office at (916) 660-
7317 or the Nevada County Campus at (530) 274-5346.
Learning Disabilities Program
The Learning Opportunities Center
Sierra College offers a strong support program for students with verified learning disabilities. Services are provided to assist students in developing the skills they need to meet the academic demands of college and benefit fully from their educational experience.

A learning disability affects the information processing systems of individuals with average or above intelligence. This interference may affect intake, retention, retrieval, or expression of information. Students are evaluated individually through the LRDS 610 assessment course. The following support services are then provided for eligible students:

- Individual education plans
- Identification of students’ learning styles
- Perceptual Development Program
- Test taking facilitation
- Compensatory learning strategies
- Tutorial support
- Computer Assisted Instruction
- Accommodations as needed
- Priority registration

Sierra College is committed to supporting learning disabled students in reaching their academic or vocational goals. For further information regarding this program please call the Rocklin Campus at (916) 660-7450, or the Nevada County Campus at (530) 274-5330.

Library/Learning Resource Center
The Rocklin Campus Library occupies a 68,000 square foot building, with seating for more than 600. Reference and research information can be obtained electronically through ProQuest Research Library and other full-text electronic products, including a growing e-book collection.

The open-stack book collection contains more than 113,000 volumes, and paper subscriptions to several hundred serials are maintained. The College also has access to 16,000 electronic books which can be viewed at any time from students’ homes. The computerized databases contain more than 6,000 magazine titles, all full text, with many years of back-files, available via the internet. An online catalog provides access to the collections at the Nevada County, Tahoe-Truckee, and Rocklin campuses. A media laboratory is available for use by all members of the campus community. The media collection contains both videos and DVDs; most are captioned.

An open access computer laboratory is available to registered students. On the ground floor of the Rocklin Campus Learning Resource Center, the Ridley Art Gallery offers exhibits from both the campus and the larger community.

The Rocklin Campus Library is open from 7:30 a.m. to 8:00 p.m. Monday through Thursday, Fridays 7:30 a.m. to 4:30 p.m. and Saturdays 9:00 a.m. to 1:00 p.m. while classes are in session during the fall and spring semesters. These hours vary during the summer sessions and holiday weeks; see the website for current hours.

The library at the Nevada County Campus occupies a two-story building and contains a similar selection of electronic products, a full reference section, serials and a growing book collection with access to the Rocklin Campus collection. Computers are available for reference and academic research. Both libraries offer wireless Internet connectivity. The Nevada County Campus library provides viewing stations for distance learning classes broadcast from the Rocklin Campus. The hours of the Nevada County Campus Library are: Monday through Thursday 9:00 a.m. to 7:00 p.m. and Fridays 9:00 a.m. to 1:00 p.m. during the fall and spring semesters. These hours are subject to change during the summer session and holiday weeks; see the website for current hours.

The Tahoe-Truckee Campus supports students with a full range of electronic books, online research databases, periodical subscriptions and a small print collection. Interlibrary loans for printed materials are available. While fall and spring classes are in session, hours are Monday through Thursday from 10:00 a.m. to 6:30 p.m. and by appointment.

For further information, see our website at www.sierracollege.edu/StudentServices/LRC.
Parking & Security Services

The District Parking & Security Services Office is located at the west entrance to the Rocklin Campus. Parking & Security Services at the Nevada County Campus is located in the N8 Building across the street from the Administration Building. Security Officers are responsible for enforcing parking regulations, responding to emergencies, unlocking/locking facilities, providing public assistance, and providing security escorts. Information regarding security policies and campus crime statistics, as required by the Clery Act, is available online at www.sierracollege.edu/StudentServices/CampusSecurity.

Dial extension 1111 for emergencies or 1000 for non-emergencies, from any of the help phones located throughout the Rocklin and Nevada County campuses and parking areas, or any campus extension phone. For routine business calls on the Rocklin campus, dial extension 7120 or (916) 660-7120 from non-campus phones. The Nevada County Campus Parking & Security Services office may be reached at (530) 274-5323.

Transfer Center

The Transfer Center offers resources and services to all students. The Center facilitates the transition from Sierra College to a baccalaureate college or university. The Center reduces the complexity of transferring by using articulation and transfer agreements, major preparation workshops and application/personal statement workshops.

Sierra College has transfer admission agreement programs with UC Davis, UC Irvine, UC Merced, UC Riverside, UC San Diego, UC Santa Barbara, UC Santa Cruz and Sonoma State University. Admission counselors from local universities such as UC Berkeley, UC Davis, UC San Diego, UC Santa Cruz, CSU Chico and CSU Sacramento visit the Center regularly. Information about admission, specific majors, general education requirements and transfer procedures is provided. Transfer workshops are offered throughout the year. The Center maintains current catalog information for California public and private schools. The Transfer Center is located in the Winstead Center at the Rocklin Campus. For information, call (916) 660-7440.

Transfer information is also available at the Nevada County Campus. For information about transfer at the Nevada County Campus call (530) 274-5303.

Tutorial Services

The Learning Center provides students with the academic support needed to achieve success. Students determine their need for tutoring and a professor or counselor recommends that the student seek tutorial assistance. Free tutorial services are provided to Sierra students if they are enrolled in the course(s) for which a tutor is requested.

Students do not need to be failing a course to receive tutorial assistance; in fact, students very often seek tutor assistance to maintain understanding or to further expand their information base.

Students who have received grades of A or B in various subjects are encouraged to inquire as to the possibility of becoming paid tutors.

For further information, contact the Rocklin Campus Learning Center at (916) 660-7220, Learning Resource Center, Room 444; or the Nevada County Campus Learning Center at (530) 274-5308, Room N2-202, or see our website at www.sierracollege.edu/StudentServices/learningctr.

Veterans Services

The Sierra College Veterans Services Office provides assistance to veterans and their dependents who are eligible for various educational benefits. The Sierra College Veterans Services Office is located at the Rocklin campus, Building L. The phone number is (916) 660-7470.

Students receiving GI Bill benefits are subject to the following general policies and requirements:

• Completion of the Matriculation process, which includes assessment in reading, English and mathematics, attending orientation and meeting with the Sierra College Veterans Counselor. New students must complete these requirements before the start of their first semester.

• Official transcripts from all prior colleges, universities and training institutes must be submitted to the Sierra College Veterans Services Office.

• All prior college work must be evaluated for prior credit reporting. For this reason, it is best to order transcripts from previous colleges as early as possible.

• An education objective must be declared upon initial application for benefits.

• Each program change requires an appointment with the Veterans Counselor to obtain an education plan.

• Academic progress toward the stated degree objective must be satisfactory. For details, see the Probation and Dismissal sections of this catalog. The lack of maintaining a 2.0 GPA may result in termination of benefits.

• Adds, drops, changes of address, etc., must be reported to the Veterans Services Office.
Veteran Dependent Exemption: Those children and spouses of U.S. veterans with service connected disabilities or U.S. veterans who died in service or from service-connected disabilities may be eligible for a college fee waiver. For more information contact your county Veterans Services Office or the California Department of Veterans Affairs.

Writing Center
The Sierra College Writing Centers provide students with professional support and guidance in all writing projects, regardless of course level or assignment complexity. Students may come to the Writing Center, Learning Resource Center, Room 424, at the Rocklin Campus, or Room N2-202 at the Nevada County Campus, for these services.

The same writing assistance is available online to all students, live, in real time, from the Sierra College Online Writing Center, accessed through the College’s Blackboard system.

The Writing Center staff is committed to helping all students complete writing assignments successfully and on time, regardless of the student’s academic preparation or language background. For further information, call (916) 660-8093 or (530) 274-5265.
Financial Aid

The primary responsibility of financing an education rests with students and the students’ immediate family; however, many students need additional assistance. The Sierra College Financial Aid Office provides programs to help those students who cannot meet the full cost of attending the College. The main office is located at the Rocklin Campus; for information call (916) 660-7310. For assistance at the Nevada County Campus, call (530) 274-5346.

Application Process
To apply for financial aid, all students must complete a Free Application for Federal Student Aid (FAFSA). The FAFSA uses federal formulas to establish financial need.

Who Should Apply: Any student who plans to attend Sierra College and is either a citizen or an eligible non-citizen of the United States may apply for financial aid. All financial aid recipients must meet the Satisfactory Academic Progress standards of the College.

Priority Dates: Financial aid funds are limited. Therefore Sierra College has established a priority filing date of March 2. Students whose FAFSAs are completed by this date are considered for all financial aid programs available at Sierra College. Those filed after March 2 will typically only be considered for a Pell Grant and/or a Stafford Student Loan. The FAFSA should be filed as soon as possible to assure availability of funds when registration fees are due.

Document Requirements: A set of federally-defined criteria identify those students who must provide documentation to support information reported on the FAFSA. This selection is referred to as “Verification.” Students selected for Verification will be notified by the Federal Processor and the Financial Aid Office via the students’ mySierra accounts, and will be asked to verify income and other information. Non-U.S. citizens will also be asked to show proof of eligibility.

Financial Aid Programs
There are four types of financial aid:
• Grants—that do not have to be repaid
• Federal Work-Study—part-time job opportunities
• Loans—can be borrowed but must be repaid with interest
• Scholarships—based on merit and/or need.

The Federal Pell Grant does not have to be repaid. It is a federally funded program that provides the foundation of a student’s financial aid package. The amount of Pell grant money for eligible students is based on enrollment status and Expected Family Contribution (EFC).

The Federal Supplemental Education Opportunity Grant (FSEOG) is awarded on a priority basis to students
who have demonstrated eligibility for the Pell Grant. The maximum award varies from year to year. This program has limited funds and is generally only available to students with the greatest need who apply by the priority filing date.

**Federal Work-Study (FWS)** provides part-time jobs for students to work 10-20 hours per week during the school year. The award varies according to the number of hours worked and the type of job. FWS provides an excellent “learning process” through on-the-job-training. The program has limited funds and is generally only available to eligible students who applied by the priority filing date and enrolled in six or more units.

**California State Grants**

The **Board of Governors Waiver (BOGW) Method C** waives the enrollment fees, registration fees, and $20.00 of the parking fee. Students eligible for the BOGW Method A or B receive a waiver for the health fee in addition to all of the above mentioned fees. Eligible California residents are those who:

- Have already qualified for financial aid, such as Pell Grants or Cal Grants; OR
- Are receiving CalWORKs, SSI (Supplemental Security Income), or General Assistance; OR
- Are dependents of deceased or disabled veterans as certified by the California Department of Veterans Affairs.

**Cal Grants**

The **State of California, through the Student Aid Commission**, sponsors several grant programs for undergraduate students. These include Cal Grants A, B and C. To qualify, students must be U.S. citizens or permanent residents and California residents attending an eligible school or college in California. To apply, both the FAFSA and a GPA verification form must be postmarked by March 2, for the following year.

**Loans**

The **Direct Loan** program enables students to borrow money directly from the U.S. Department of Education. Students must be in good academic standing, enrolled in at least six units and demonstrate financial need. The interest rate is variable for new borrowers. No interest accrues until repayment begins—six months after the student graduates or drops below half-time.

The **Unsubsidized Direct Loan** is available to students who do not have demonstrated need. Interest begins to accrue at the time the loan is taken out. The total of a Subsidized and Unsubsidized Direct Loan may not exceed loan limits.

**Scholarships**

Many community patrons and organizations establish scholarship awards as a means of expressing confidence in a college and its students. These awards range in amounts from $50 to $500.

Eligibility varies according to individual scholarships. However, at a minimum, continuing students must be enrolled in six units or more, have attended Sierra College for two consecutive semesters and accumulated 24 college units with a 2.5 grade point average.

Listings and requirements for the various scholarships are published on the Sierra College website at www.sierracollege.edu and also in an annual scholarship booklet which is available December through February in the Rocklin Campus Financial Aid Office. All applications must be submitted by the posted deadline in February. Students selected to receive a scholarship are notified in April.

**Satisfactory Academic Progress**

Federal regulations require that all students receiving financial aid while attending Sierra College meet established standards of Satisfactory Academic Progress.

**To maintain Satisfactory Academic Progress students must:**

- Maintain a cumulative 2.0 GPA (C or better) at Sierra College; and
• Complete the following number of units based on their units attempted with a 2.0 GPA

<table>
<thead>
<tr>
<th>Units Attempted</th>
<th>Units to Complete with 2.0 GPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 units or more</td>
<td>at least 9 units</td>
</tr>
<tr>
<td>9 – 11.5 units</td>
<td>at least 8 units</td>
</tr>
<tr>
<td>6 – 8.5 units</td>
<td>at least 6 units</td>
</tr>
<tr>
<td>0.5 – 5.5 units</td>
<td>all enrolled units</td>
</tr>
</tbody>
</table>

Students who do not attain Satisfactory Academic Progress at the end of each semester will be placed on probation and will have to meet all satisfactory progress requirements by the end of the semester. Failure to do so will result in Termination for Financial Aid. Under no circumstances will a student be paid retroactively for any ineligible semesters.

**Automatic Termination:** Students who do not complete any courses for which aid was received (i.e., receives grades of “W,” “I,” or “F” in all classes attempted) will be immediately terminated from all financial aid programs.

**NOTE:** Financial aid disqualification described here applies to Pell and SEOG Grants, Work-Study and Direct Loans.

**Appeals:** Students who have been discontinued from financial aid due to unsatisfactory academic progress have the right to appeal the termination by completing and submitting a petition to the Financial Aid Advisory Committee.

**Reinstatement:** Students who are disqualified may be reinstated on probationary status once they have completed a minimum of six units with a 2.0 (C) grade point average for one semester (without aid). Students must notify the Financial Aid Office of satisfactory completion.

**Dropping Units:** Financial aid recipients who drop units or withdraw from Sierra College should notify the Financial Aid Office immediately. A review of the student’s award will be made to determine if any reduction or repayment of aid will result from the dropping of units. Any refund of fees for which the student is eligible will be credited to the federal or state financial aid program(s) from which the student received money.

**Unit Limits:** A student may receive financial aid until a total of 90 units has been earned at Sierra College, regardless of whether aid was received. Up to 30 units of remedial coursework may be deducted from the total cumulative units and all ESL units may be deducted. Unusual circumstances may warrant a review of a terminated student’s individual situation such as documented illness, medical or emotional instability and/or high unit major requirement. Should a student desire such a review, the student should complete and file a 90-Unit Appeal which will be reviewed by the Financial Aid Advisory Committee.

**Disbursement and Refund of Financial Aid**

**Disbursement:** The Financial Aid Office authorizes funds to individual student accounts. It takes four days for the Bursar’s Office to create refunds. Financial aid funds will be used to satisfy any student debt owed to Sierra College before a refund is produced.

**Methods for Refunds:** Students must elect a refund method; the choices are direct deposit, Sallie Mae debit card, or check. Direct deposit is the fastest way to receive a refund. Students may log onto http://www.sierracollege.edu/StudentServices/financialServ/debitcard.html and select the eDisbursement Link to set-up an account.

The first disbursement for financial aid is the first business day following the add/drop period of each semester. Additional aid eligibility is processed weekly.

**Classes Beginning after the First Day of the Semester:** Students receive payment for those classes currently being attended and any late-starting classes (e.g., Fast-Track). The Financial Aid Office will not produce additional Pell Grant awards for any students who add a course after the add/drop period of each semester.

**Selective Service**

All males under the age of 26 must register with the Selective Service. Failure to do so may jeopardize students’ eligibility for federal financial aid.
Student Activities

Associated Students of Sierra College
All students become members of the Associated Student Body upon enrolling at Sierra College and are guaranteed equal and unbiased representation by the elected representatives of the Student Senate.

Student Government
Student activities at Sierra College are managed by the Associated Students of Sierra College (ASSC). The officers of the ASSC constitute the Student Senate and represent the Associated Students in promoting student activities and clubs and provide student representation. The ASSC also participates in decisions affecting students and promotes understanding and cooperation between the students, the Board of Trustees and the faculty and administrators of Sierra College. The elected officials consist of President, Vice-President, Treasurer, Secretary, Public Relations Officer, Activities Coordinator, Club Coordinator and Student Senators. A representative of the Nevada County Campus also serves on the Student Senate. All students are encouraged to participate in student government while at Sierra College. The student government office for the Rocklin Campus is located in the J Building, next to the Campus Center. For information at the Nevada County Campus, contact the Campus Life Office at (916) 660-7380. All students are invited to attend Student Senate meetings.

Athletics
Sierra College supports opportunities for student athletes to continue their pursuit of individual goals academically and athletically by providing a quality program of intercollegiate competition for men and women. Wolverine teams compete in the following:

**Men's Sports**—baseball, basketball, football, golf, swimming, tennis, water polo and wrestling

**Women's Sports**—basketball, cross country and long distance track, golf, soccer, softball, swimming, tennis, volleyball and water polo

Sierra College is a member of the California Community College Commission on Athletics and competes in the Big 8 Conference and the Northern California Football Association’s Valley Conference. Other members of the Big 8 Conference include American River, Cosumnes River, Diablo Valley, Modesto, Sacramento City, San Joaquin Delta and Santa Rosa. Other football teams
competing in the Valley Conference include College of the Sequoias, Fresno City, Reedley, San Joaquin Delta and West Hills.

Any student interested in participating should check with the various coaches or the athletic director regarding special rules covering residence, number of units carried, transfers, etc. For information, call (916) 660-8100.

**Honor Society**

Sierra College students who have completed 12 units of degree applicable credit at Sierra College with a 3.5 GPA are eligible to join the college’s Beta Mu Zeta chapter of Phi Theta Kappa International Honor Society of the Two Year College. The purpose of Phi Theta Kappa is to recognize and encourage scholarship among two-year college students. Phi Theta Kappa provides opportunities for the development of leadership and service, for an intellectual climate for exchange of ideas and ideals, for lively fellowship for scholars and eligibility to apply for Phi Theta Kappa Transfer Scholarships. For additional information, contact Jennifer Kattman, PTK Advisor, or Tim Haenny, Campus Life Coordinator.
Associate Degrees and Certificates

Honor Graduates
Upon graduation, students are recognized with honors when they have completed all degree-applicable credit courses with a cumulative grade point average of 3.5 or better. Other college coursework posted to the Sierra College transcript is included in this GPA calculation.

General Education Reciprocity
Title 5 outlines and defines general education subject areas that each California Community College must include. Lower-division courses that are locally approved vary among colleges; Sierra College honors the determinations made by other California Community Colleges, California State Universities, and University of California campuses.

Catalog Rights
To fulfill Sierra College degree and certificate requirements, students may choose the catalog in force either upon their entry or exit from Sierra College, whichever is in the best interest of the student. Students who are pursuing a major developed for the first time during their attendance at Sierra College may also choose the catalog in force the first year the major was offered.

To maintain the above listed catalog rights, students must be enrolled in at least one semester or session per calendar year. Enrollment is defined as a Sierra College academic record showing a final grade or non-evaluative symbol (A, B, C, D, F, W, P, NP, or I).

When a student breaks enrollment at Sierra College for a full calendar year without receiving a degree or certificate, the student will be required to meet the catalog requirements in force upon the student’s return enrollment or the catalog in force at the time the degree or certificate is granted.

Students beginning enrollment at Sierra College during the summer have entry catalog rights for the prior academic year, not the upcoming academic year.

Courses may be used to satisfy general education requirements if they were approved at the time of course completion. Students must meet current Title 5 criteria for general education breadth requirements. District Board Policies and Administrative Procedures may supersede catalog rights. Catalog rights do not apply to entrance requirements for programs (e.g., Nursing).

Degree Petitions
Students desiring an associate’s degree must file a petition with a campus Admissions & Records Office by the following semester deadlines:
December 2010 ................. October 1, 2010
May or August 2011 ................. March 1, 2011

Students submitting a degree petition must have: a) in progress and/or successfully completed a minimum of 60 degree credit units (12 units of which must be completed at Sierra College); b) grades of “C” or better in all courses required for the major; and c) an overall GPA of at least 2.0.

Students may apply for multiple degrees. Courses required in majors may be used to fulfill major requirements for more than one degree. Courses which satisfy major and general education requirements may be used to fulfill either, but not both of the requirements, within the same degree.

Students requesting a duplicate diploma must submit a $10.00 fee per diploma requested.

Certificate Petitions
Students desiring certificate(s) of achievement or skills certificate(s) must file a petition with a campus Admissions & Records Office by the following semester deadlines:
December 2010 ................. October 1, 2010
May or August 2011 ................. March 1, 2011

Students submitting certificate of achievement petitions must have: a) in progress or successfully completed certificate requirements (50% of required units must be completed at Sierra College); and b) an overall GPA of 2.0 or higher in courses required for the certificate of achievement. Certificates of Achievement are recorded on official transcripts.

Students submitting skills certificate petitions must have: a) in progress or successfully completed certificate requirements (50% of required units must be completed at Sierra College); and b) must have grades of “C” or better in all courses required for the skills certificate. Skills Certificates are not recorded on official transcripts.

Students requesting a duplicate of either type of certificate must submit a $5.00 fee per certificate.
Associate Degree Requirements
2010–2011

Sierra College Philosophy for General Education: General education is designed to introduce students to the variety of means through which people comprehend the modern world. General education introduces the content and methodology of the major areas of knowledge: the humanities and fine arts, the natural sciences and the social sciences. The general education program provides the opportunity for students to develop the intellectual skills, information technology facility, affective and creative capabilities, social attitudes and appreciation for cultural diversity that will make them effective learners and citizens.

I. General Education Breadth Requirements

A. Natural Sciences (For an A.S. degree must complete a laboratory science. Laboratory classes are underlined.)

| Life Sciences: Agriculture 156, 163, 198, 200; Anthropology 1, 1/1L, 10; Biological Sciences 1, 2, 3, 4, 5, 6, 7A/7B, 8A/8B, 10, 11, 14, 15, 21, 22, 24, 33, 35, 36, 44, 55, 56, 56/56L; Environmental Studies & Sustainability 10; Interdisciplinary 1, 6, 11; Psychology 40, 40/40L. Physical Sciences: Agriculture 221; Astronomy 2, 2/1L, 2/14, 5, 5/1L, 5/14, 10, 10/1L, 10/14, 25; Chemistry 1A, 1B, 2A, 2B, 3A, 3B; Earth Science 1, 1/1L, 2, 3, 3/3L, 6, 10, 10/10L, 14, 15, 15/15L; Environmental Studies & Sustainability 10; Geography 1, 1/1L, 4, 4/4L; Interdisciplinary 1, 5, 6, 11; Mathematics 30; Mechatronics 1; Physics 2A, 2B, 4A, 4B, 4C, 10, 10/11. |
|---|---|
| Units Required | 3 |

B. Social and Behavioral Sciences

| Behavioral Sciences: Anthropology 2, 4, 5, 6, 7, 9, 12, 14, 27; Communication Studies 1, 3, 5, 7, 8, 10, 15; Geography 3; Human Development & Family 1, 4, 9, 21, 22, 25, 60; Humanities 3; Interdisciplinary 1; Nutrition & Food Science 10, 14; Psychology 1, 2, 3, 4, 5, 6, 7, 8, 10, 27, 30, 50, 60, 70; Social Science 10, 13; Sociology 1, 2, 3, 4, 5, 24. Social Sciences: Administration of Justice 50; Agriculture 19B, 215; Business 49; Economics 1A, 1B; Geography 2, 3, 5; History 4A, 4B, 17A, 17B, 19A, 19B, 20, 21, 22, 23, 24, 27, 35, 50, 51; Interdisciplinary 1, 8; Political Science 1, 2, 3, 4, 7, 8, 9, 12, 16, 27; Psychology 70; Social Science 20, 25, 30, 35, 40, 50; Sociology 10; Women & Gender Studies 1, 4. |
|---|---|
| Units Required | 3 |

C. Humanities

| Fine Arts: Applied Art & Design 12, 60; Art 1A, 1B, 1C, 1D, 1E, 1F, 1G, 4A, 4B, 5A, 5A, 6A, 7A, 8A, 9A, 10, 11, 12A, 17, 18A, 18B, 19, 20, 22, 24, 31, 32, 33, 40A, 41, 80; Communication Studies 12; Drama 10A, 13, 20, 21; English 18, 19, 20, 21; Human Development & Family 16; Humanities 1, 2, 3; Interdisciplinary 1, 8; Music 2, 6A, 9A, 10, 11, 12A, 12B, 13, 20, 39, 40A, 40B, 40C, 40D, 46, 47, 48, 50, 52, 54; Photography 10, 60A, 65. Literature and Language: Communication Studies 10; Deaf Studies 1, 2, 3, 4; Drama 21; English 1B, 24, 25, 26, 27, 29, 30A, 30B, 32, 33, 34, 35, 37, 38, 40, 41, 42, 43, 44, 45, 46A, 46B, 47A, 47B, 48, 49; French 1, 2, 3, 4; German 1, 2; History 4A, 4B; Human Development & Family 44, 45; Humanities 5, 10, 15, 17, 20, 21; Interdisciplinary 1, 5, 10, 13, 15, 18, 24, 26, 27, 30, 30A, 31, 32, 33, 42; Philosophy 2, 4, 6, 10, 13, 15, 17, 20, 21, 27, 30, 50, 60, 65; Social Science 50; Spanish 1, 2, 3, 4, 5, 15, 16. |
|---|---|
| Units Required | 3 |

D. Language and Rationality

1. English Composition: Business 86, English 1A, 2, 2, English as a Second Language 40W. (completion with a grade of “C” or better) 2. Communication and Analytic Thinking: Business 85; Communication Studies 1, 2, 3, 5, 7, 8, 10; Computer Science 10; English 1B, 1C, 11, 24; History 35; Journalism 20A; Mathematics 8, 10, 12, 13, 15, 16A, 16B, 17, 18, 20, 29, 30, 31, 32, 33, 42; Philosophy 4, 12; Psychology 5, 42. |
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<tbody>
<tr>
<td>Units Required</td>
<td>3</td>
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</tbody>
</table>

E. Health Education/Physical Education

| Administration of Justice 60; Health Education 1, 2, 10; Health Sciences 2, 7, 20; Human Development & Family 61; Nursing Assistant 3; Nutrition & Food Science 5, 10, 13, 14; Personal Development 70; Physical Education 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 19, 21, 22, 23, 24, 25, 26, 27, 29, 30, 35, 36, 39, 40, 42, 51A, 51B, 51C, 51D, 53, 54, 55, 56A, 56B, 57, 59, 64, 65, 66, 68, 69, 70, 71, 72, 73, 74, 75, 79, 81, 83, 84, 85, 87, 88, 93, 94, 96, 200; Psychology 30, 50; Recreation Management 70, 71, 72, 80, 81; Sociology 5. |
|---|---|
| Units Required | 2 |

F. Multicultural Studies

| Anthropology 2, 4, 7, 9, 14, 27; Art 1D, 1E, 1F, 1G; Business 55; Communication Studies 7, 10; Deaf Studies 3, 4; English 24, 25, 26, 27, 47A, 47B; French 3, 4; Geography 2, 3, 5; History 17A, 17B, 19A, 19B, 20, 21, 23, 24, 27, 30, 51; Human Development & Family 25; Humanities 3, 9, 10, 11, 27; Italian 3; Japanese 1, 2; Music 11; Philosophy 13, 15, 27; Political Science 7, 9, 27; Psychology 3, 27; Registered Nursing 19, 24; Social Science 10, 13, 20, 25, 30, 35, 40, 50; Sociology 3, 10; Spanish 3, 4; Women & Gender Studies 1, 2, 3, 4. |
|---|---|
| Units Required | 3 |
II. Learning Skills
Courses used to fulfill Learning Skills Requirements of Writing, Reading, Oral Communications and Mathematics may also be used to satisfy either Major or General Education Requirements.

<table>
<thead>
<tr>
<th>Course Category</th>
<th>Requirement</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Writing</td>
<td>Completion of one of the following courses with grade of “C” or better: Business 86; English 1A, 2, 12; English as a Second Language 40W.</td>
<td>0</td>
</tr>
<tr>
<td>B. Reading</td>
<td>Demonstrated proficiency by ONE of the following:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1. Completion of one of the following courses with grade of “C” or better:</td>
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<tr>
<td></td>
<td>a. English 1B, 1C, 11, 50, N; History 35; Philosophy 4; OR</td>
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<tr>
<td></td>
<td>b. Possession of either a bachelor or higher degree from a regionally accredited institution; OR</td>
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<tr>
<td></td>
<td>c. *Satisfactory score on exam (no college units granted).</td>
<td></td>
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<tr>
<td>C. Oral Communications</td>
<td>Demonstrated proficiency by ONE of the following:</td>
<td></td>
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<tr>
<td></td>
<td>1. Completion of one of the following courses with grade of “C” or better: Business 85, 102; Communication Studies 1, 2, 3, 5, 8; Drama 10A, 10B; English as a Second Language 40L; Personal Development 9; OR</td>
<td></td>
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<tr>
<td></td>
<td>a. *Written petition certifying acceptable experience and an oral performance to demonstrate proficiency (no college units granted).</td>
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<tr>
<td>D. Mathematics</td>
<td>Demonstrated proficiency by ONE of the following:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1. Completion of one of the following courses with grade of “C” or better:</td>
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<tr>
<td></td>
<td>a. Mathematics B; Mathematics D or higher; Psychology 42; OR</td>
<td></td>
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<tr>
<td></td>
<td>b. *Completion of one year (or block schedule equivalent) of Algebra II or Integrated Mathematics III or higher level mathematics in high school with grades of “C” or better (no college units granted); OR</td>
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</tr>
<tr>
<td></td>
<td>c. *Minimum score on ACT of 25 or SAT of 560 (no college units granted).</td>
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</table>

TOTAL GENERAL EDUCATION AND LEARNING SKILLS UNITS ......................................................... 20-34

III. Major
Minimum of 18 units in pattern of courses described in catalog. Courses must be completed with grades of “C” or better. No courses may be counted for both the Major and General Education. ......................................................... 18-49

IV. Electives
Any additional degree-applicable credit courses. ................................................................. 0-22

GRADE POINT AVERAGE: cumulative GPA of 2.0 or better

TOTAL UNITS REQUIRED FOR A.A. OR A.S. DEGREE (At least 12 of 60 required units must be completed at Sierra College) ........ 60

Notes:
1. Credit for only one course from English A, N, 50, 50L, or 60 may be applied toward the degree.
2. See page 41 for Catalog Rights.
3. The A.A./A.S. general education pattern does not necessarily meet transfer general education requirements.
4. Courses used to fulfill General Education Breadth Requirements A—F may be counted in only one of the areas.
5. Students may apply for multiple degrees. Courses required in majors may be used to fulfill major requirements for more than one degree. Courses which satisfy major and general education requirements may be used to fulfill either, but not both of the requirements, within the same degree.

*See Counselor for details.
A.A. and A.S. Degree Programs

Sierra College offers both Associate in Arts and Associate in Science degrees. Students planning to graduate with the Associate degree must comply with the graduation requirements stated on pages 42–43. Students should understand that the offering of this catalog is not a contract. Changes in course offerings or other catalog content may be made at the discretion of the college. Contact a counselor for assistance in accurately planning your educational program.

Administration of Justice
(a) Law Enforcement: A.A., A.S.
(b) Courts: A.A., A.S.
(c) Corrections: A.A., A.S.

Agriculture
(a) Agriculture: A.S.
(b) Animal Science: A.S.
(c) Equine Studies: A.S.

Applied Art & Design
(a) Graphic Design: A.A., A.S.
(b) Illustration: A.A., A.S.
(c) Multimedia: A.A., A.S.

Art
(a) Art: A.A.
(b) Art History: A.A.

Automotive Analysis: A.A., A.S.

Biological Sciences
(a) Biological Sciences: A.S.
(b) Watershed Ecology: A.S.

Business
(a) Accounting: A.A., A.S.
(b) Administrative Professional: A.A., A.S.
(c) Business Administration: A.A., A.S.
(d) Business Entrepreneurship: A.A., A.S.
(e) General Business: A.A., A.S.
(f) Management: A.A., A.S.
(g) Marketing: A.A., A.S.
(h) Risk Management and Insurance: A.S.

Chemistry: A.S.

Communication Studies
(a) General: A.A., A.S.
(b) Graphic Design: A.A., A.S.
(c) Multimedia: A.A., A.S.
(d) Photography: A.A., A.S.

Computer Information Systems
(a) Administrative Technical Support: A.A., A.S.
(b) Computer Applications: A.A., A.S.
(c) Computer Service Technologist: A.A., A.S.
(d) Computer Support: A.A., A.S.
(e) Internet: A.A., A.S.
(f) Networking: A.A., A.S.
(g) Virtual Office Professional-Administrative: A.A., A.S.
(h) Virtual Office Professional-Technical Support: A.A., A.S.
(i) Virtual Office Professional-Web Management: A.A., A.S.

Computer Science
(a) Computer Science: A.A., A.S.
(b) Management Information Systems: A.A., A.S.

Construction Technology
(a) Mill Cabinet: A.A., A.S.
(b) Residential Building Construction: A.A., A.S.

Deaf Studies: American Sign Language: A.A.

Drama
(a) Theater Arts: A.A.

Earth Science
(a) Geology: A.S.

Education
(a) Liberal Studies—Elementary Education: A.A.

Engineering: A.A., A.S.

Engineering Support
(a) Architectural: A.A., A.S.
(b) Mechanical/Civil: A.A., A.S.

English: A.A.

Environmental Studies & Sustainability: A.S.

Fashion Design and Merchandising
(a) Apparel Design & Production: A.A., A.S.
(b) Fashion Merchandising: A.A., A.S.

Fire Technology: A.A., A.S.

History: A.A.

Human Development and Family
(a) Early Childhood Education: A.A., A.S.
(b) Early Childhood Education—Master Teacher: A.A., A.S.
(c) Early Childhood Education—Site Supervisor: A.A., A.S.

Humanities
(a) Asian Studies: A.A.
(b) Diverse Perspectives: A.A.
(c) General: A.A.

Liberal Arts
(a) Arts and Cultures: A.A.

Mathematics: A.A., A.S.

Mechatronics Technology: A.A., A.S.

Music: A.A., A.S.

Natural Science: A.A., A.S.

Nursing, Registered: A.A., A.S.

Philosophy: A.A.

Photography: A.A., A.S.

Physical Education: A.A., A.S.

Physics: A.S.

Psychology: A.A., A.S.

Real Estate: A.A., A.S.

Recreation Management: A.A., A.S.

Social and Behavioral Sciences: A.A., A.S.

Welding Technology: A.A., A.S.

Women’s Studies: A.A.
Certificate Programs

Certificates are designed to aid the student in gaining initial employment or upgrade current employment in a career technical or occupational specialty. Certificates of Achievement and Skills Certificates are in addition to, or in lieu of, but not equivalent to an Associate Degree.

**Certificates of Achievement**
A Certificate of Achievement is an acknowledgment by Sierra College that the student has completed prescribed courses of study in career and technical education. All Certificates of Achievement require a minimum of eighteen units with at least a 2.0 grade point average. At least 50% of the required units must be completed at Sierra College. Certificates of Achievement are recorded on student transcripts.

- **Agriculture:**
  - (a) Agriculture
  - (b) Animal Science
  - (c) Equine Studies

- **Applied Art & Design:**
  - (a) Graphic Design
  - (b) Illustration
  - (c) Multimedia

- **Automotive Technology:**
  - (a) Air Conditioning & Body Electrical
  - (b) Alignment & Brake
  - (c) Automatic Transmission
  - (d) Automotive Engine Machining
  - (e) Emission & Driveability Tune-up
  - (f) Master Automotive Technician
  - (g) Powertrain

- **Biological Sciences:**
  - (a) Watershed Ecology

- **Business:**
  - (a) Accounting
  - (b) Administrative Professional
  - (c) Business Entrepreneurship
  - (d) General Business
  - (e) Management
  - (f) Marketing
  - (g) Risk Management & Insurance

- **Computer Information Systems:**
  - (a) Administrative Technical Support
  - (b) Computer Applications
  - (c) Computer Service Technologist
  - (d) Computer Support
  - (e) Internet
  - (f) Networking
  - (g) Virtual Office Professional—Administrative
  - (h) Virtual Office Professional—Technical Support
  - (i) Virtual Office Professional—Web Management

- **Construction Technology:**
  - (a) Cabinet Making
  - (b) Carpentry
  - (c) Mill Cabinet
  - (d) Residential Building Construction

- **Deaf Studies: American Sign Language**
- **Engineering:**
  - (a) Civil Engineering Technology
  - (b) General Engineering Technology

- **Engineering Support:**
  - (a) Architectural
  - (b) Mechanical/Civil

- **Fashion Design and Merchandising:**
  - (a) Apparel Design & Production
  - (b) Fashion Merchandising

- **Fire Technology**
- **Human Development & Family:**
  - (a) Early Childhood Education Teacher

- **Mechatronics Technology**
- **Nutrition and Fitness Trainer Photography**
- **Real Estate**
- **Welding**

**Skills Certificates**
A Skills Certificate is an acknowledgement by Sierra College that the student has attained a specified set of competencies within a career and technical education program, either in preparation to enter the field or upgrade of skills required for continued employment. Skills Certificates require demonstration of a specified set of competencies and require less than 18 units. To obtain a Skills Certificate from Sierra College, all courses required for the certificate must be completed with grades of “C” or better and at least 50% of the required units must be completed at Sierra College. Skills certificates are not recorded on student transcripts.

- **Business:**
  - (a) Small Business

- **Computer Information Systems:**
  - (a) Computer Essentials
  - (b) Microsoft Office Specialist—Core Level
  - (c) Microsoft Office Specialist—Expert Level
  - (d) Online Business
  - (e) PC Care
  - (f) Web Page Editor
  - (g) Web Site Production

- **Drama:**
  - (a) Costuming
  - (b) Stagecraft

- **Engineering Support Technology:**
  - (a) Drafting Essentials

- **Geography:**
  - (a) Geographic Information Systems (GIS)

- **Human Development and Family:**
  - (a) Early Childhood Education Associate Teacher

- **Library Science:**
  - (a) Library Media Technician

- **Mechatronics:**
  - (a) Electro-Mechanical

- **Photography:**
  - (a) Alternative Processes in Photography
  - (b) Color Photography
  - (c) Digital Imaging
  - (d) Landscape Photography
  - (e) Narrative Photography
  - (f) Photographic Processes
  - (g) Portrait, Fashion and Wedding Photography

- **Welding Technology:**
  - (a) Gas Metal Arc Welding
  - (b) Gas Tungsten Arc Welding
  - (c) Metal Fabricator and Designer
  - (d) Shielded Metal Arc Welding
  - (e) Welding Entrepreneurship
Transferable Courses to CSU System
46

Transferable Courses to CSU System
California State University Baccalaureate Level Course List 2010-2011
Administration of Justice 28, 50, 51, 52, 53, 54, 55, 56, 57, 58,

62, 67, 69, 70, 72, 73, 74, 75, 76, 88, 89, 95*
Agriculture 28, 95*, 120, 132, 133, 156, 158A, 158B, 159, 163,
164, 182, 198, 200, 203, 215, 221, 225
Anthropology 1, 1L, 2, 4, 5, 6, 7, 9, 10, 12, 14, 27, 28
Applied Art & Design 12, 20, 28, 30, 50, 52, 53, 54, 55, 60, 61,
62, 65, 66, 70, 71, 75, 76, 79, 80, 81A, 81B, 83, 85, 86, 90, 92,
94, 95*, 99
Art 1A, 1B, 1C, 1D, 1E, 1F, 1G, 4A, 4B, 5A, 5B, 6A, 6C, 7A, 7B, 8A,
8B, 9A, 9B, 9S, 10, 11, 12A, 12B, 17, 18A, 18B, 18S, 19, 19S,
20, 21, 22, 24, 28, 31, 32, 33, 40A, 40B, 41, 50, 52, 54, 55, 71,
80, 303
Astronomy 2, 5, 10, 11, 14, 25, 28
Automotive Technology 28, 59, 61, 62A, 62B, 63, 64, 66A, 66B,
68A, 68B, 69, 71A, 75, 79, 80, 81, 95*
Biological Sciences 1, 2, 3, 4, 5, 6, 7A, 7B, 8A, 8B, 10, 11, 13A,
13B, 14, 15, 16A through Z, 17A, 20, 21, 22, 23, 24, 28, 30, 33,
35, 36, 44, 55, 56, 56L, 95*, 301
Business 1, 2, 3, 9, 19, 20, 28, 48, 49, 52, 53, 54, 55, 70, 71, 72,
73, 74, 85, 86, 95*, 100, 101, 102, 115, 120, 121, 122, 123,
124, 140, 150
Chemistry 1A, 1B, 1X, 1Y, 2A, 2B, 2X, 2Y, 3A, 3B, 5, 12A, 12B, 28,
95*
Communication Studies 1, 2, 3, 5, 7, 8, 10, 12, 15, 20, 28, 30,
31A, 31B, 95*, 301
Computer Information Systems 5, 12, 15, 20, 28, 30, 35, 37, 45,
50, 52, 53, 54, 65, 67, 70, 80, 87, 88, 90, 95*, 100, 115, 120,
127, 137, 140, 141, 142, 144, 145, 150, 347A
Computer Science 10, 12, 13, 21, 26, 27, 28, 39, 46, 50, 52, 54,
Construction Technology—Cabinet 1, 2, 3, 4, 5, 9, 22, 23, 24, 28,
36, 95*
Construction Technology—Residential 28, 35, 42, 44, 45, 46, 47,
48, 52, 60, 62, 80, 82, 95*
Deaf Studies 1, 2, 3, 4, 5, 6, 7, 8, 9A, 9B, 28, 95*
Drama 10A, 10B, 11, 12, 13, 14, 15, 16A, 16B, 17, 19A, 19B, 20,
21, 28, 95*
Earth Science 1, 1L, 2, 3, 3L, 6, 10, 10L, 14, 15, 15L, 16G, 28, 50,
54A through E, 55F, 56F, 91A, 95*, 301
Economics 1A, 1B, 28
Education 7, 10, 28, 95*
Engineering 10, 17, 17L, 22A, 22B, 28, 35, 45, 95*, 150
Engineering Support Technology 1, 2, 5, 6, 10, 11, 12, 20, 21, 25,
28, 90, 91A, 95*
English 1A, 1B, 1C, 2, 7, 11, 12, 14, 18, 19, 20, 21, 24, 25, 26, 27,
28, 29, 30A, 30B, 32, 33, 34, 35, 37, 38, 40, 41, 42, 43, 44, 45,
46A, 46B, 47A, 47B, 48, 49, 300F, 300V
40W
Environmental Studies and Sustainability 10, 28, 30, 32, 34, 95*
Fashion Design & Mer­chan­dis­ing 1, 2, 3, 4A, 4B, 5, 6, 7, 8, 12,
28, 95*
Fire Technology 1, 3, 4, 5, 7, 8, 10, 28, 41, 50, 73, 74, 75,
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95*, 150, 151, 152, 154, 155, 157, 159, 160, 165, 166, 167
(maximum 30 units of FIRE courses excluding 95)
French 1, 2, 3, 4, 28
Geography 1, 1L, 2, 3, 4, 4L, 5, 11, 12, 14, 15, 16, 28, 85, 86, 90,
91A, 91B, 92, 93, 95*, 301, 351
German 1, 2, 28
Health Education 1, 2, 10
Health Sciences 3
History 4A, 4B, 17A, 17B, 19A, 19B, 20, 21 (not with 17A, 17B),
22, 23, 24, 27, 28, 35, 50, 51, 95*
Human Development & Family 1, 2, 3, 4, 5, 7, 9, 10, 11, 12, 13,
14, 16, 19, 21, 22, 23, 25, 28, 29, 30, 38, 40, 41A, 41B, 41C,
43, 44, 45, 46, 47, 60, 61, 95*, 303, 304
Humanities 1, 2, 3, 5, 9, 10, 11, 15, 17, 20, 21, 27, 28, 30, 300E,
300F, 300I, 300M, 300S, 300X
Independent Study Any course numbered 28 (all bac­ca­lau­re­ate
lev­el)
Interdisciplinary 1, 5, 6, 8, 10, 11
Italian 1, 2, 3
Japanese 1, 2, 28
Journalism 20A, 28, 95*
Library Science 10A, 10B, 20, 25, 28, 30, 40, 95*
Mathematics 8, 10, 12, 13, 15, 16A, 16B, 17, 18, 20, 28, 29, 30,
31, 32, 33, 42
Mechatronics 1, 4, 8, 10, 14, 25, 28, 44, 54, 90, 95*
Music 2, 3A, 3B, 4A, 4B, 6A, 6B, 7, 9A, 9B, 10, 11, 12A, 12B, 13,
14, 15, 20, 25, 28, 37, 39, 40A, 40B, 40C, 40D, 42, 46, 47, 48,
Nursing, Registered 10, 12, 15, 19, 21, 22, 23, 24, 95*
Nutrition & Food Science 1, 5, 10, 13, 14, 28, 95*
Personal Development 1, 6, 8, 9, 21, 28, 52, 70, 94*, 150C, 302,
303
Philosophy 2, 4, 5, 6, 10, 12, 13, 15, 20, 21, 27, 28, 30, 50, 60,
65
Photography 10, 28, 30, 60A, 60B, 65, 70A, 70B, 75, 76, 78, 80,
85, 88, 90A, 90B, 90G, 90H, 90I, 90J, 90L, 90M, 90P, 90T, 91B,
91C, 95*
Physical Education 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16,
17, 19, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 35, 36, 39, 40, 42,
51A, 51B, 51C, 51D, 53, 54, 55, 56A, 56B, 57, 58, 59, 64, 65,
66, 68, 69, 70, 71, 72, 73, 74, 75, 79, 80, 81, 82, 83, 84, 85,
86, 87, 88, 89A, 89B, 89C, 89D, 89F, 93, 94, 96, 101, 102, 103,
122, 123, 124, 125, 126, 127, 131, 132, 133, 134, 137, 141,
142, 143, 144, 145, 146, 161, 162, 163, 164, 165, 200
Physics 2A, 2B, 2X, 2Y, 4A, 4B, 4C, 4Y, 4Z, 10, 11, 28
Political Science 1, 2, 3, 4, 7, 8, 9, 12, 16, 27, 28
Psychology 1, 2, 3, 4, 5, 6, 7, 8, 10, 15, 27, 28, 30, 40, 40L, 42,
50, 60, 70
Real Estate 74, 75, 76, 77, 78, 79, 81, 82, 83, 84, 95*
Recreation Management 10, 20, 30, 40, 50, 51, 60, 61, 70, 71,
72, 80, 81, 95*
Skill Development 1, 10, 28
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Social Science 10, 13, 20, 21, 25, 28, 30, 35, 40, 50, 300C, 300D, 300F, 300G
Sociology 1, 2, 3, 4, 5, 10, 24, 28
Spanish 1, 2, 3, 4, 15, 16, 28
Welding Technology 10, 20, 28, 30, 40, 50, 60, 70, 82, 95*
Women and Gender Studies 1, 2, 3, 4

*Total of all Internship courses (any course numbered 95 and Personal Development 94) to be credited may not exceed 16 units.
Transferable Courses to UC System
University of California Transfer Course Agreement 2010-2011

Administration of Justice 50, 55, 58
Agriculture 28**, 120*, 132*, 133*, 156, 158A*, 158B*, 198, 200, 215, 221, 225, 300** (maximum credit, 1 course from AGRI 120, 132, and 133), (maximum credit, 1 course from 158A and 158B)
Anthropology 1, 1L*, 2, 4, 5, 6, 7, 9, 10, 14, 27, 28**, 300** (1L must be taken with 1)
Applied Art & Design 12, 28**, 70, 75
Art 1A, 1B, 1C, 1D, 1E, 1F, 1G, 4A, 4B, 5A, 5B, 6A, 6C, 7A, 7B, 8A, 8B, 9A, 9B, 10, 11, 12A, 12B, 17, 18A, 18B, 19, 20, 21, 28**, 31, 32, 40A, 40B, 52, 54, 80, 300**
Astronomy 2, 5, 10, 11, 14, 25, 28**, 300**
Biological Sciences 1, 2 or 22, 3 or 33, 4*, 5*, 6*, 7A* & 7B*, 8A* & 8B*, 10*, 11*, 14, 15, 20**, 21, 28**, 30, 35, 44*, 55*, 56*, 56L*, 300** (maximum credit, 2 courses from 5, 6, 7AB and 57); (7A & 7B must be both completed; 7A & 7B combined, equivalent to 5), (maximum credit, 5 units from 4, 8AB and 44), (8A & 8B must both be completed; 8A & 8B combined, equivalent to 4), (maximum credit, 1 course from 10, 11 and 56/56L; no credit for 11 or 56/56L if taken after 1A)
Business 1, 2, 3, 20, 48, 49
Chemistry 1A*, 1B*, 2A*, 2B*, 3A* and 3B*, 5, 12A, 12B, 28** (maximum credit, 1 course from 1AB and 2AB), (3A & 3B must both be completed; 3A & 3B combined equivalent to 1A; maximum credit, 5 units)
Communication Studies 1*, 2, 3, 5*, 7, 10, 12, 15 (maximum credit, 1 course from 1 and 5)
Computer Science 10, 12, 13, 21, 26, 28**, 39, 46, 54, 66, 76A, 300**
Deaf Studies 1, 2, 3, 4, 5, 28**, 300**
Drama 10A, 10B, 11, 12, 13, 14, 15, 16A, 16B, 17, 19A, 19B, 20, 21, 28**, 300**
Earth Science 1, 1L, 2, 3, 3L, 10, 10L*, 14, 15, 15L, 28**, 300** (10L must be taken with 10)
Economics 1A, 1B, 28**, 300**
Education 10
Engineering 10, 17, 17L, 22B, 28**, 35, 45, 150
Engineering Support Technology 11
English 1A, 1B, 1C, 2, 18, 19*, 20, 21, 24, 25, 26, 27, 28**, 29, 30A, 30B, 32, 33, 34, 35, 37*, 38*, 40, 41, 42, 43, 46A, 46B, 47A, 47B, 48, 49, 300**, 300F, 300V (no credit for 19 if taken after 20 or 21), (maximum credit, 1 course from 37 and 38)
English as a Second Language 30W*, 40W*, 300** (maximum credit, 8 units from 30W and 40W)
Environmental Studies & Sustainability 10, 28**, 300**
Fashion & Merchandising 3
French 1, 2, 3, 4, 28**, 300**, 300F
Geography 1, 1L*, 2, 3, 4, 5, 28**, 300**, 301, 351 (1L must be taken with 1)
German 1, 2, 28**
Health Education 1, 2
Human Development & Family 1*, 4, 9*, 21, 22 (maximum credit, 1 course from 1 and 9)
Humanities 1, 2, 3, 5, 9, 10, 11, 15, 17, 20, 21, 27, 28**, 300**, 300E, 300F, 300I, 300M, 300S, 300X
Interdisciplinary 1*, 5*, 6*, 8 (maximum credit, 1 course from 5 and 6)
Italian 1, 2, 3
Japanese 1, 2, 28**
Library Science 10A*, 10B* (maximum credit, 1 course)
Mathematics 12*, 13*, 15*, 16A*, 16B*, 17*, 18*, 20*, 28**, 29*, 30*, 31*, 32, 33*, 42*, 300** (maximum credit, 1 course from 12 and 29), (maximum credit, 1 course from MATH 13 and PSYC 42), (maximum credit, 1 course from 15 and 20), (maximum credit, 1 course from 16A and 42), (maximum credit, 1 course from 16B and 31), (maximum credit, 1 course from 17 and 18), (33 maximum credit, 5 units)
Nutrition & Food Science 10
Personal Development 1
Philosophy 2, 4, 6, 10, 12, 13, 15, 20, 21, 27, 28**, 30, 50, 60, 65
Photography 10, 60A, 60B, 75
Physics 2A*, 2B*, 4A*, 4B*, 4C*, 4Y*, 4Z*, 10*, 11*, 28** (maximum credit, 1 course from 2AB and 4ABC), (no credit for 10 or 11 if taken after 2A or 4A), (4Y must be taken with 4B), (4Z must be taken with 4C)
Political Science 1, 2, 3, 4, 7, 8, 9, 12, 16, 27, 28**, 300**
Psychology 1, 2, 3, 4, 5, 6, 7, 8, 10, 15, 27, 28**, 30, 40, 40L, 42*, 60, 70, 300** (maximum credit, 1 course from PSYC 42 and MATH 13)
Recreation Management 70*, 71*, 80*, 81* (Any or all of these courses and PHED activity courses marked by * combined: maximum credit, 4 units)
Social Science 10, 13, 20, 25, 28**, 30, 35, 40, 50, 300**, 300F, 300G
Sociology 1, 2, 3, 4, 5, 10, 28**, 300**
Spanish 1, 2, 3, 4, 28**, 300**
Women & Gender Studies 1, 2, 3, 4

* See explanation of unit limitations as noted within disciplines above.
** Transfer credit for these courses is given only after review of the course outline by the enrolling UC campus. This usually occurs after transfer and may require recommendations from faculty.
California State University
General Education Breadth Requirements 2010-2011

A. **English Language Communication and Critical Thinking** (One course each from areas 1, 2 and 3)  
1. Oral Communication: Business 85; Communication Studies 1, 2, 3, 5.  
2. Written Communication: English 1A; English as a Second Language 40W.  
3. Critical Thinking: English 1B, 1C, 11; History 35; Philosophy 4, 12.  

B. **Scientific Inquiry and Quantitative Reasoning** (Minimum of one course in each of areas 1, 2 and 4; one laboratory component required from either area 1 or 2). (Laboratory courses are underlined)  
1. Physical Science: Agriculture 221; Astronomy 2, 2/11, 2/14, 5, 5/11, 5/14, 10, 10/11, 10/14, 25; Chemistry 1A, 1B, 2A, 2B, 3A, 3B; Earth Science 1, 1/1L, 2, 3, 3/3L, 10, 10/10L, 14, 15, 15/15L; Geography 1, 1/1L, 4, 4/4L; Interdisciplinary 1, 11; Mechatronics 1; Physics 2A, 2B, 4A, 4B, 4C, 10, 10/11.  
2. Life Science: Agriculture 156, 200; Anthropology 1, 1/1L, 10; Biological Sciences 1, 2, 3, 4, 5, 6, 7A & 7B*, 8A & 8B*, 10, 11, 14, 15, 21, 22, 33, 35, 36, 44, 55, 56, 56/56L; Interdisciplinary 1; Psychology 40, 40/40L.  
3. Laboratory Activity: One of the courses selected from area 1 or 2 must include a laboratory. Laboratory courses are underlined.  
4. Mathematics/Quantitative Reasoning: Mathematics 8, 10, 12, 13, 15, 16A, 16B, 17, 18, 20, 29, 30, 31, 32, 33, 42; Psychology 42.  

C. **Arts and Humanities** (Minimum of one course in each of areas 1 and 2 and representing a reasonable distribution among the disciplines)  
1. Arts: Applied Art & Design 12, 60; Art 1A, 1B, 1C, 1D, 1E, 1F, 1G, 4A, 4B, 5A, 6A, 6C, 7A, 8A, 9A, 10, 11, 12A, 17, 19, 40A, 80; Communication Studies 12; Drama 10A, 13, 16A; English 37, 38, 40, 42; Humanities 1, 2, 3; Music 2, 6A, 9A, 10, 11, 12A, 12B, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 27, 29, 30, 30A, 30B, 32, 33, 34, 35, 37, 38, 40, 41, 43, 44, 45, 46A, 46B, 47A, 47B, 48, 49; French 1, 2, 3, 4; German 1, 2; History 4A, 4B, 17A, 17B, 19A, 19B, 20, 21, 22, 23, 24, 27, 30, 51; Human Development & Family 44, 45; Humanities 1, 2, 3, 5, 9, 10, 11, 15, 17, 20, 21; Interdisciplinary 1; Italian 1, 2, 5; Japanese 1, 2; Philosophy 2, 6, 10, 13, 15, 20, 21, 27, 30, 50, 60, 65; Spanish 1, 2, 3, 4, 15, 16; Women & Gender Studies 3.  

D. **Social Sciences** (Minimum of one course in each of areas 1 and 2 and representing a reasonable distribution among the disciplines)  
1. Administration of Justice 50; Agriculture 198, 215; Anthropology 2, 4, 5, 6, 7, 9, 12, 14, 27; Business 49; Communication Studies 7, 8, 10, 15; Economics 1A, 1B; Geography 2, 3, 5; History 4A, 4B, 17A, 17B, 19A, 19B, 20, 21, 22, 23, 24, 27, 50, 51; Human Development & Family 1, 4, 9, 21, 22, 60; Humanities 3, 9, 27; Interdisciplinary 1, 8; Nutrition & Food Science 10; Political Science 1, 2, 3, 4, 7, 8, 9, 12, 16, 27; Psychology 1, 2, 3, 5, 6, 8, 10, 27, 30, 50, 60, 70; Social Science 10, 13, 20, 25, 30, 35, 40, 50; Sociology 1, 2, 3, 4, 5, 10, 24; Women & Gender Studies 1, 2, 3, 4.  
2. U.S. History, Constitution and American Ideals requirement is met by A, B, or C below:  
   A. Two courses from History 17A, 17B, Political Science 1.  
   B. History 27 and one course from History 17B, History 20 or Political Science 1.  
   C. History 17A and History 20.  

E. **Lifelong Learning and Self-Development** (Minimum of one course, required of which only one unit may be PHED activity)  
1. Biological Sciences 6, 55; Environmental Studies & Sustainability 10; Health Education 2, 10; Human Development & Family 1, 9, 21, 22, 60, 61; Interdisciplinary 1, 5, 6; Nutrition & Food Science 10, 13; Personal Development 6, 70; Physical Education 83, 84; Physical Education Activity (1 unit maximum) 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 19, 21, 22, 23, 24, 25, 26, 27, 29, 30, 36, 39, 40, 42, 51A, 51B, 51C, 51D, 53, 54, 55, 56A, 56B, 57, 64, 65, 66, 69, 70, 71, 72, 73, 74, 75, 79, 85, 87, 93, 94, 200; Psychology 1, 6, 8, 10, 27, 30, 50; Recreation Management 70, 71, 80, 81; Sociology 4, 5.  

| MINIMUM LOWER-DIVISION GENERAL EDUCATION UNITS | 39 |
| Additional upper-division general education units | 39 |
| Minimum general education units to obtain Bachelor's degree | 48 |

* Students must complete the series for CSU General Education Certification.  
NOTES:  
1. Grades of C or better required for each course fulfilling areas A1, A2, A3 and B4.  
2. While a course may be listed in multiple areas, it may only be used to satisfy one area requirement.  
3. Students with Advanced Placement (AP), College-Level Examination Program (CLEP), and/or International Baccalaureate (IB) examinations should check with a counselor to verify application of the examinations to the appropriate general education areas.  
4. CSU Sacramento requires: A 2.0 GPA in general education courses (except as noted above); and a foreign language for graduation.  
5. CSU Sacramento recommends: 42 units of lower-division general education courses be completed prior to transfer.
# IGETC

Intersegmental General Education Transfer Curriculum for CSU and UC 2010-2011

<table>
<thead>
<tr>
<th>1. ENGLISH COMMUNICATION (CSU: 3 courses, 9 semester/12–15 quarter units, one course each from areas A, B, &amp; C) (UC: 2 courses, 6 semester/8–10 quarter units, one course each from areas A &amp; B)</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>A. English Composition: English 1A</td>
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<td>B. Critical Thinking-English Composition: English 1B, 1C</td>
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<tr>
<td>C. Oral Communication: Communication Studies **1, 2, 3, **5 (University of California transfer students do not have to fulfill this area; California State University transfers must.)</td>
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<td>6–9</td>
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<tr>
<th>2. MATHEMATICAL CONCEPTS AND QUANTITATIVE REASONING (1 course, 3 semester/4–5 quarter units)</th>
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<tbody>
<tr>
<td>Mathematics **12, **13, **15, **16A, **16B, **18, **20, **29, **30, **31, **32, **33, **42; Psychology **42</td>
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<tr>
<th>3. ARTS AND HUMANITIES (3 courses, 9 semester/12–15 quarter units. At least one must be from Arts and one from Humanities.)</th>
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<tbody>
<tr>
<td>A. Arts: Art 1A, 1B, 1C, 1D, 1E, 1F, 1G, 10, **11, 80; Drama 13, 16A; English 42; Music 2, 6A, 9A, **10, 11, 12A, 12B, 13; Photography *10; Social Science 50</td>
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<tr>
<td>B. Humanities: Communication Studies 10; Deaf Studies 3, 4, 5; English 24, 25, 26, 27, 29, 30A, 30B, 32, 33, 34, 35, **37, **38, 40, 41, 43, 46A, 46B, 47A, 47B, 48, 49; French 2, 3, 4; History 4A, 4B, 17A, 17B, 19A, 19B, 20, 21, 22, 23, 24, 27, 50, 51; Humanities 1, 2, 3, 5, *9, 10, 11, 15, 17, 20, 21; Italian 3; Japanese 2; Philosophy 2, 6, 10, 13, 15, 20, 21, 27, 30, 50, 60, 65; Spanish 3, 4; Women &amp; Gender Studies *3</td>
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<thead>
<tr>
<th>4. SOCIAL AND BEHAVIORAL SCIENCES (3 courses, 9 semester/12–15 quarter units. Courses from at least two disciplines.)</th>
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<tbody>
<tr>
<td>Administration of Justice 50; Agriculture 198, 215; Anthropology 2, 4, 5, 6, 7, 9, 14, 27; Business 49; Communication Studies 7, 15; Economics 1A, 1B; Geography 2, 3, 5; History 4A, 4B, 17A, 17B, 19A, 19B, 20, 21, 22, 23, 24, 27, 50, 51; Human Development &amp; Family **1, 4, **9, **21, **22; Humanities *9, **27; Interdisciplinary 1; Political Science 1, 2, 3, 4, 7, 8, 9, 12, 16, 27; Psychology 1, 2, 3, 4, 5, 6, 8, **10, 27, 60, 70; Social Science 10, 13, 20, 25, 30, 35, 40, 50; Sociology 1, 2, 3, **4, 5, **10; Women &amp; Gender Studies 1, **2, *3, *4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>5. PHYSICAL AND BIOLOGICAL SCIENCES (2 courses, 7-9 semester units/9-12 quarter units. One Physical Science course and one Biological Science course.) Must include one laboratory course. Laboratory courses are underlined.</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Physical Science: Astronomy 2, 2/11, 2/14, 5, 5/11, 5/14, 10, 10/11, 10/14, 25; Chemistry **1A, **1B, **2A, **2B, **3A/3B; Earth Science 1, 1/1L, 2, 3, 3/5L, 10, **10/10L; Geography 1, **1/1L, 4; Physics **2A, **2B, **4A, **4B, **4C, **10/10L</td>
<td></td>
</tr>
<tr>
<td>B. Biological Science: Agriculture 156, 200; Anthropology 1, **1/1L, 10; Biological Sciences 1, **2, **3, **4, **5, **6, **10, **11, 14, 15, 21, **22, **33, **44, **55, **56, **56/56L; Psychology 40, 40/40L</td>
<td></td>
</tr>
<tr>
<td></td>
<td>7–9</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>6. LANGUAGE OTHER THAN ENGLISH (Proficiency) (University of California requirement. Not required of California State University transfers.) (UC transfers may fulfill this requirement by completing A, B, C, or D below)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Completion of one of the following courses: Deaf Studies 1, 2, 3, 4; French 1, 2, 3, 4; German 1, 2; Italian 1, 2, 3; Japanese 1, 2; Spanish 1, 2, 3, 4.</td>
<td></td>
</tr>
<tr>
<td>B. Completion of two years of the same foreign language in high school with grades of “C” or better.</td>
<td></td>
</tr>
<tr>
<td>C. Equivalent proficiency demonstrated by a specified minimum score on College Board SAT II tests in languages other than English; or a score of 3, 4, or 5 on any languages other than English College Board Advanced Placement (AP) Examinations; or a score of 5 or higher on any languages other than English International Baccalaureate (IB) Higher Level Examinations.</td>
<td></td>
</tr>
<tr>
<td>D. Completion of two years of formal schooling at the sixth grade level or higher in an institution where the language of instruction is not English with grades of “C” or better.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0–4</td>
</tr>
</tbody>
</table>

### CSU GRADUATION REQUIREMENT IN U.S. HISTORY, CONSTITUTION & AMERICAN IDEALS (6 sem. units/2 courses) (not part of IGETC)

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>California State University transfers may fulfill this requirement by completing A, B or C below:</td>
<td></td>
</tr>
<tr>
<td>A. Two courses from History 17A, History 17B, Political Science 1</td>
<td></td>
</tr>
<tr>
<td>B. History 27 and one course from History 17B, History 20 or Political Science 1</td>
<td></td>
</tr>
<tr>
<td>C. History 17A and History 20</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6</td>
</tr>
</tbody>
</table>

**NOTES:**

1. Students should consult with counselors to determine the most appropriate general education patterns for their intended majors and transfer institutions.
2. Courses listed in multiple areas will not be certified in more than one area except for courses in Language Other Than English.
3. Courses taken as preparation for a major will also satisfy the corresponding portion of the IGEC requirements.
4. Each course used to fulfill IGEC requirements must be completed with a minimum grade of “C” or better.
5. Advanced placement (AP) exams can be used to satisfy all areas of IGEC except for the Critical Thinking-English Composition and Oral Communication requirements. IGEC policy is to accept a score of 3 or higher to clear one course.
6. International Baccalaureate (IB) exams can be used to satisfy all areas of IGEC except for the Area 1 requirements. IGEC policy is to accept a score of 5 or higher to clear one course.

*Indicates that course is cross-listed in two departments and can be credited only once.

**Indicates that course credit is limited by UC and/or CSU. Consult pages 46-48 of the catalog and the Counseling Office for additional information.
Course Disciplines/Abbreviations

Effective Summer 2009, course subject abbreviations were changed. Transcripts continue to reflect the previous abbreviations for courses prior to Summer 2009, with all courses starting Summer 2009 listed with the new abbreviations. The following conversion chart shows disciplines with the old and new subject abbreviations.

<table>
<thead>
<tr>
<th>Discipline</th>
<th>Abbreviation Prior to Summer 2009</th>
<th>Abbreviation Effective Summer 2009</th>
<th>Discipline</th>
<th>Abbreviation Prior to Summer 2009</th>
<th>Abbreviation Effective Summer 2009</th>
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</thead>
<tbody>
<tr>
<td>Administration of Justice</td>
<td>ADMJUS.</td>
<td>ADMJ</td>
<td>Health Education</td>
<td>H.ED.</td>
<td>HED</td>
</tr>
<tr>
<td>Agriculture</td>
<td>AG.</td>
<td>AGRI</td>
<td>Health Sciences</td>
<td>H.SCI.</td>
<td>HSCI</td>
</tr>
<tr>
<td>Anthropology</td>
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<td>ANTH</td>
<td>History</td>
<td>HISTORY</td>
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</tr>
<tr>
<td>Applied Art and Design</td>
<td>ART/DES.</td>
<td>AAD</td>
<td>Human Development and Family</td>
<td>HUM.DEV.</td>
<td>HDEV</td>
</tr>
<tr>
<td>Astronomy</td>
<td>ASTRON.</td>
<td>ASTR</td>
<td>Humanities</td>
<td>HUM.</td>
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</tr>
<tr>
<td>Automotive Technology</td>
<td>A.T.</td>
<td>AUTO</td>
<td>Interdisciplinary</td>
<td>INT.</td>
<td>INT</td>
</tr>
<tr>
<td>Biological Sciences</td>
<td>BIO.SCI.</td>
<td>BIOL</td>
<td>Italian</td>
<td>ITALIAN</td>
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</tr>
<tr>
<td>Business</td>
<td>BUSINESS</td>
<td>BUS</td>
<td>Japanese</td>
<td>JAPANESE</td>
<td>JPN</td>
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<tr>
<td>Chemistry</td>
<td>CHEM.</td>
<td>CHEM</td>
<td>Journalism</td>
<td>JORN.</td>
<td>JRNL</td>
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<tr>
<td>Communication Studies</td>
<td>COMM.ST.</td>
<td>COMM</td>
<td>Learning Disabilities</td>
<td>LRN.DIS.</td>
<td>LRDS</td>
</tr>
<tr>
<td>Computer Information</td>
<td>C.I.S.</td>
<td>CIS</td>
<td>Library Science</td>
<td>LIB.SCI.</td>
<td>LIBS</td>
</tr>
<tr>
<td>Computer Integrated</td>
<td>C.I.E.</td>
<td>CIE</td>
<td>Mathematics</td>
<td>MATH.</td>
<td>MATH</td>
</tr>
<tr>
<td>Construction Technology</td>
<td>C.T.C.</td>
<td>CTC</td>
<td>Mechatronics</td>
<td>MECH.</td>
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</tr>
<tr>
<td>Cabinet</td>
<td>C.T.R.</td>
<td>CTR</td>
<td>Music</td>
<td>MUSIC.</td>
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<tr>
<td>Deaf Studies</td>
<td>DFST.</td>
<td>DFST</td>
<td>Nursing Assistant</td>
<td>N.A.</td>
<td>NRSNA</td>
</tr>
<tr>
<td>Drama</td>
<td>DRAMA.</td>
<td>DRMA</td>
<td>Nursing, Registered</td>
<td>N.R.</td>
<td>NRSR</td>
</tr>
<tr>
<td>Earth Science</td>
<td>E.SCI.</td>
<td>ESCI</td>
<td>Nutrition &amp; Food Science</td>
<td>NUT./FD.</td>
<td>NUTF</td>
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<tr>
<td>Economics</td>
<td>ECON.</td>
<td>ECON</td>
<td>Perceptual Training</td>
<td>PRCP.TR.</td>
<td>PRCP</td>
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<tr>
<td>Education</td>
<td>ED.</td>
<td>EDU</td>
<td>Personal Development</td>
<td>P.D.</td>
<td>PDEV</td>
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<td>Engineering</td>
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<td>ENGR</td>
<td>Philosophy</td>
<td>PHIL.</td>
<td>PHIL</td>
</tr>
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<td>Engineering Support</td>
<td>EST.</td>
<td>EST</td>
<td>Photography</td>
<td>PHOTO.</td>
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<td>English</td>
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<td>Physical Education</td>
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<tr>
<td>English as a Second</td>
<td></td>
<td></td>
<td>&amp; Athletics</td>
<td>P.E.</td>
<td>PHED</td>
</tr>
<tr>
<td>Fashion Design &amp; Merchandising</td>
<td>FASH.DES.</td>
<td>FASH</td>
<td>Physics</td>
<td>PHYSICS</td>
<td>PHYS</td>
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<tr>
<td>Fire Technology</td>
<td>FIRE TEC.</td>
<td>FIRE</td>
<td>Political Science</td>
<td>POL.SCI.</td>
<td>POLS</td>
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<tr>
<td>French</td>
<td>FRENCH.</td>
<td>FREN</td>
<td>Psychology</td>
<td>PSYCH.</td>
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<tr>
<td>Geography</td>
<td>GEOG.</td>
<td>GEOG</td>
<td>Real Estate</td>
<td>R.E.</td>
<td>REAL</td>
</tr>
<tr>
<td>Environmental Horticulture</td>
<td>ENV.HORT.</td>
<td>HORT</td>
<td>Recreation Management</td>
<td>RECMGT.</td>
<td>RECM</td>
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<tr>
<td>Environmental Studies</td>
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<td></td>
<td>Skill Development</td>
<td>SKL.DEV.</td>
<td>SKDV</td>
</tr>
<tr>
<td>Environmental &amp; Sustainability</td>
<td>ESS.</td>
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<td>Social Science</td>
<td>SOC.SCI.</td>
<td>SSCI</td>
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<tr>
<td>Fashion Design &amp; Merchandising</td>
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<td></td>
<td>Sociology</td>
<td>SOC.</td>
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</tr>
<tr>
<td>Fire Technology</td>
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<td>Spanish</td>
<td>SPANISH</td>
<td>SPAN</td>
</tr>
<tr>
<td>French</td>
<td></td>
<td></td>
<td>Supportive Education</td>
<td>SUP.E.D.</td>
<td>SUPE</td>
</tr>
<tr>
<td>Geography</td>
<td></td>
<td></td>
<td>Technical Education</td>
<td>TECH.ED.</td>
<td>TECH</td>
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<tr>
<td>Environmental Horticulture</td>
<td></td>
<td></td>
<td>Welding Technology</td>
<td>WELD TEC.</td>
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</tr>
<tr>
<td>Environmental &amp; Sustainability</td>
<td></td>
<td></td>
<td>Women and Gender</td>
<td>WMST.</td>
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</tr>
</tbody>
</table>
Understanding Course Descriptions

The courses described in this catalog may not be offered every term or every year. Check the schedule of classes for the current term’s class offerings. Course outlines for all courses are on file in the Office of Instruction.

**COURSE NUMBERING SYSTEM**

0–299  Degree-applicable credit courses (includes courses with letter designations), may be accepted by the California State Universities and the University of California system

300–399  Degree-applicable credit courses in selected topics, most are transferable to the California State Universities and in some instances to the University of California system (Unless otherwise indicated, transfer credit for a “300” selected topics course is given only after review of the specific course outline/syllabus by the enrolling UC campus and may not be included in the UC admission decision.)

400–449  Degree-applicable credit courses in selected topics, generally not transferable to four-year institutions

500–599  Nondegree-applicable basic skills credit courses in reading, writing, computation, and English as a Second Language (limited to 30 units); see a counselor for limitation restrictions and exemptions.

600–799  Nondegree-applicable credit courses

800–899  Noncredit courses (not graded, zero unit)

**CROSS-LISTED COURSES**

Courses that are cross-listed in more than one discipline are noted as such under the course title, (e.g., ENGL 44 Introduction to Children’s Literature, Also known as HDEV 44). Unless the course is repeatable, it may be completed only one time under either discipline.

**TRANSFER STATUS DESIGNATION**

The transfer status of a course is indicated at the end of the course description.

(CSU) indicates that the course credit transfers to all of the California State University campuses.

(CSU—with unit limitation) indicates that there is a restriction on CSU course transferability. See pages 46–47 for specific limitations.

(CSU, UC) indicates that the course credit transfers to all of the California State University and University of California campuses.

(CSU, UC—with unit limitation) indicates that there is a restriction on UC course transferability. See page 48 for specific limitations.

Courses that are marked (not transferable), (not degree-applicable), or (noncredit) are not transferable to a university.

**COURSE PREREQUISITES, COREQUISITES, AND ADVISORIES**

Sierra College strives to guide students into courses in which they will have the greatest chance for academic success. The following are the definitions for prerequisites, corequisites and advisory preparation:

“Prerequisite” means a condition of enrollment that students are required to meet in order to demonstrate current readiness for enrollment in a course or educational program. “C” is the designated minimum grade for prerequisite courses.

“Corequisite” means a condition of enrollment consisting of a course that students are required to simultaneously take in order to enroll in another course.

“Advisory” means a condition of enrollment that students are advised, but not required, to meet before or in conjunction with enrollment in a course or educational program.

**COURSE UNITS**

Units of credit are based upon a relationship between the number of units assigned to the course and the number of lecture and/or laboratory hours or performance criteria specified in the course outline. Courses require a minimum of three hours of student work per week, including class time for each unit of credit, prorated for short-term, extended term, laboratory and/or activity courses.

**COURSE HOURS**

Each course description lists approved course hours as the total number of lecture, laboratory and/or activity hours for the semester. These hours do not include expected independent work/study done outside of class.

**COURSE GRADING**

Most courses may be taken for a letter grade or on a pass/
no pass basis at the student’s discretion. Courses that are restricted to specific grading are identified as such at the end of the course description. Courses that must be taken for a letter grade are noted, “letter grade only;” courses that may only be taken on a pass/no pass basis are identified with, “pass/no pass grading.” If no such identification is listed, students have the option to choose, within published deadlines, the type of grading. No more than one course may be taken on a pass/no pass basis per term.

**COURSE REPEATABILITY**
Courses that are designated as repeatable are identified as such at the end of the course description, e.g., may be taken three times for credit. If no such notation is included, the course is not considered repeatable.

**INDEPENDENT STUDY COURSES**

**28 INDEPENDENT STUDY:**
Units: 1-3
Transferable to CSU, UC-with limitation*

**Hours to Complete Course:** 54 hours per unit
Students may enroll in a maximum of three units per instructor per semester. Independent study courses may be taken four times for credit per discipline.

**Objectives:** These courses are designed for students interested in furthering their knowledge, at an independent study level, in an area where no specific curriculum offering is currently available. Independent study might include, but is not limited to, research papers, special subject area projects and research projects.

**Arrangements:** A student may enroll by (1) requesting a Sierra College Independent Study Project from the appropriate Division Office; (2) contacting the appropriate professor for approval; (3) submitting the completed Independent Study Project form to the Division Dean for approval and issuance of a course code number; (4) submitting the approved Independent Study Project form to a campus Admissions & Records Office.

*Transfer credit for these courses is given only after review of the course by the enrolling UC campus.

**INTERNSHIP COURSES**

**95 INTERNSHIP:**
Units: .5-4
Transferable to CSU-with limitation*

**Hours to Complete Course:** 60 hours per unit for non-paid work; 75 hours per unit for paid work. The total of all types of internship units cannot exceed 16.

**Objectives:** Occupational Work Experience designed for advanced students to expand their knowledge and skills in an area related to their college major.

**Arrangements:** Students must be continuing Sierra College students, have a minimum 2.0 GPA and attend a mandatory orientation. A written instructional agreement must be developed between the instructor, supervisor and student before the student is approved as an intern. Although some sites offer a wage or a stipend as compensation, most internships are unpaid.

*Total of all internship units transferred to CSU may not exceed 16.*
The Administration of Justice program offers three areas of concentration. Each area has its own core classes everyone must complete. In addition, a minimum of six additional units must be selected from the degree concentration to complete the degree program. Courses are available in Law Enforcement, specializing in police activities including effective patrol services to the public. Courts, specializing in responsibilities to the public, and Corrections, where the deviant member of society is subjected to society’s effort to change the deviant behavior. Courses continue to be developed and modified to conform to the needs expressed by the public in each of the three areas of concentration.

TRANSFER MAJOR REQUIREMENTS in Administration of Justice are available in the Counseling Center. In all cases, students should consult with a counselor for specific transfer requirements. Four-year graduates in Administration of Justice are qualified for positions in law enforcement, retail security, corrections, and pre-law.

ADMINISTRATION OF JUSTICE—
LAW ENFORCEMENT CONCENTRATION
A.A. OR A.S. DEGREE
The Law Enforcement curriculum prepares students for a career as a peace officer. Students must fulfill major requirements and all associate degree requirements for the A.A./A.S. degree; see pages 42-43.

REQUIRED COURSES

<table>
<thead>
<tr>
<th>COURSE</th>
<th>UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADMJ 50 Introduction to Administration of Justice</td>
<td>3</td>
</tr>
<tr>
<td>ADMJ 54 Introduction to Investigation</td>
<td>3</td>
</tr>
<tr>
<td>ADMJ 55 Criminal Law</td>
<td>3</td>
</tr>
<tr>
<td>ADMJ 56 Introduction to Evidence</td>
<td>3</td>
</tr>
<tr>
<td>ADMJ 58 Community and Human Relations</td>
<td>3</td>
</tr>
<tr>
<td>ADMJ 151 Administration of Justice Pathways</td>
<td>2</td>
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</table>

PLUS 6 ADDITIONAL UNITS FROM:

<table>
<thead>
<tr>
<th>COURSE</th>
<th>UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADMJ 51 Traffic Investigations and Enforcement</td>
<td>3</td>
</tr>
<tr>
<td>ADMJ 52 Criminal Procedures</td>
<td>3</td>
</tr>
<tr>
<td>ADMJ 53 Police Field Operations</td>
<td>3</td>
</tr>
<tr>
<td>ADMJ 57 Juvenile Law and Procedure</td>
<td>3</td>
</tr>
<tr>
<td>ADMJ 60 Defensive Tactics for Law Enforcement</td>
<td>1</td>
</tr>
<tr>
<td>ADMJ 61A Firearms Familiarization</td>
<td>2</td>
</tr>
<tr>
<td>ADMJ 61B Advanced Firearms</td>
<td>2</td>
</tr>
<tr>
<td>ADMJ 61C Firearms: Semi-automatics</td>
<td>2</td>
</tr>
<tr>
<td>ADMJ 61D Firearms Instructor</td>
<td>2</td>
</tr>
<tr>
<td>ADMJ 61E Firearms Instructor POST</td>
<td>2.5</td>
</tr>
<tr>
<td>ADMJ 70 Substantive Law</td>
<td>3</td>
</tr>
<tr>
<td>ADMJ 72 Illegal Drugs—Recognition and Influence</td>
<td>3</td>
</tr>
<tr>
<td>ADMJ 73 Writing for Criminal Justice</td>
<td>3</td>
</tr>
<tr>
<td>ADMJ 74 Computer Use in Criminal Justice</td>
<td>3</td>
</tr>
<tr>
<td>ADMJ 75 Values &amp; Ethics in Criminal Justice</td>
<td>3</td>
</tr>
<tr>
<td>ADMJ 76 Street and Prison Gangs</td>
<td>3</td>
</tr>
<tr>
<td>ADMJ 88 Computer Forensics (also CIS 88)</td>
<td>3</td>
</tr>
<tr>
<td>ADMJ 89 Fraud Examination</td>
<td>3</td>
</tr>
<tr>
<td>ADMJ 110 P.C. 832: Arrest and Control</td>
<td>2</td>
</tr>
<tr>
<td>ADMJ 112 P.C. 832: Firearms</td>
<td>.5</td>
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<tr>
<td>ADMJ 115 POST Modular III Training</td>
<td>7</td>
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<tr>
<td>ADMJ 120 Post Modular II Training</td>
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</tr>
<tr>
<td>ADMJ 200 Domestic Violence Education and Awareness</td>
<td>3</td>
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</tbody>
</table>

TOTAL UNITS REQUIRED: 23

ADMINISTRATION OF JUSTICE—
COURTS CONCENTRATION
A.A. OR A.S. DEGREE
The Courts Concentration curriculum prepares students for positions in the judicial system. Students must fulfill major requirements and all associate degree requirements for the A.A./A.S. degree; see pages 42-43.

REQUIRED COURSES

<table>
<thead>
<tr>
<th>COURSE</th>
<th>UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADMJ 50 Introduction to Administration of Justice</td>
<td>3</td>
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<tr>
<td>ADMJ 52 Criminal Procedures</td>
<td>3</td>
</tr>
<tr>
<td>ADMJ 55 Criminal Law</td>
<td>3</td>
</tr>
<tr>
<td>ADMJ 56 Introduction to Evidence</td>
<td>3</td>
</tr>
<tr>
<td>ADMJ 57 Juvenile Law and Procedure</td>
<td>3</td>
</tr>
<tr>
<td>ADMJ 151 Administration of Justice Pathways</td>
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PLUS 6 ADDITIONAL UNITS FROM:

<table>
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<th>COURSE</th>
<th>UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADMJ 70 Substantive Law</td>
<td>3</td>
</tr>
<tr>
<td>ADMJ 73 Writing for Criminal Justice</td>
<td>3</td>
</tr>
<tr>
<td>ADMJ 74 Computer Use in Criminal Justice</td>
<td>3</td>
</tr>
<tr>
<td>ADMJ 75 Values and Ethics in Criminal Justice</td>
<td>3</td>
</tr>
<tr>
<td>ADMJ 200 Domestic Violence Education and Awareness</td>
<td>3</td>
</tr>
</tbody>
</table>

TOTAL UNITS REQUIRED: 23
ADMINISTRATION OF JUSTICE—CORRECTIONS CONCENTRATION
A.A. OR A.S. DEGREE
The Corrections Concentration curriculum prepares students for careers in corrections, probation and parole. Students must fulfill major requirements and all associate degree requirements for the A.A./A.S. degree; see pages 42-43.

REQUIRED COURSES

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
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<tbody>
<tr>
<td>ADMJ 50</td>
<td>Introduction to Administration of Justice</td>
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<tr>
<td>ADMJ 55</td>
<td>Criminal Law</td>
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<td>ADMJ 56</td>
<td>Introduction to Evidence</td>
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<td>ADMJ 62</td>
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<td>ADMJ 67</td>
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<tr>
<td>ADMJ 151</td>
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</table>

PLUS 6 ADDITIONAL UNITS FROM:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tr>
<td>ADMJ 60</td>
<td>Defensive Tactics for Law Enforcement</td>
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<td>ADMJ 61A</td>
<td>Firearms Familiarization</td>
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<td>ADMJ 70</td>
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<td>ADMJ 72</td>
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<td>ADMJ 73</td>
<td>Writing for Criminal Justice</td>
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<td>ADMJ 74</td>
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<td>ADMJ 75</td>
<td>Values and Ethics in Criminal Justice</td>
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<tr>
<td>ADMJ 76</td>
<td>Street and Prison Gangs</td>
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</tr>
</tbody>
</table>

TOTAL UNITS REQUIRED: 23

Administration of Justice Courses

ADMJ 28 INDEPENDENT STUDY
Units: 1-3
Designed for students interested in furthering their knowledge at an independent study level in an area where no specific curriculum offering is currently available. Independent study might include, but is not limited to, research papers, special subject area projects, and research projects. May be taken four times for credit. See Independent Study page in catalog. (CSU)

ADMJ 50 INTRODUCTION TO ADMINISTRATION OF JUSTICE
Units: 3
Hours: 54 lecture
Exploration of the history and philosophical roots of the U.S. justice system; in-depth study of the system and its subsystems with emphasis on the total environment in which they operate; roles and role expectations of professionals as perceived from within and outside of the system; study of theories of crime, punishment, rehabilitation; exploration of research methodology of the discipline; analysis of the system interrelationship with society, punishments and incarceration alternatives. (CSU, UC)

ADMJ 51 TRAFFIC INVESTIGATIONS AND ENFORCEMENT
Units: 3
Hours: 54 lecture
Study of traffic management and enforcement. Emphasis on traffic law enforcement procedures, motor vehicle code violations, public safety, and collision investigations. (CSU)

ADMJ 52 CRIMINAL PROCEDURES
Units: 3
Hours: 54 lecture
Comprehensive examination of the origin, development, philosophy and legal basis of criminal procedures in California; procedural statutes, case law, constitutional law and judicial rules governing pre-arrest, arrest, custody, crime charging, motions; applicable rules of discovery and evidence; California grand jury system; pretrial court procedures; adult and juvenile court procedures; verdict, sentencing and the appellate process. (CSU)

ADMJ 53 POLICE FIELD OPERATIONS
Units: 3
Hours: 54 lecture
History and development of patrol philosophy; field activities including patrol, complaints, requests for services, field interviews, searches, arrests, traffic problems, disturbances and other community or criminal incidents. (CSU)

ADMJ 54 INTRODUCTION TO INVESTIGATION
Units: 3
Hours: 54 lecture
Fundamentals of investigation; crime scene searches and recording; collection and preservation of evidence; sources of information; surveillance; interview and interrogation; follow-up investigation; resources; and case preparation. (CSU)

ADMJ 55 CRIMINAL LAW
Units: 3
Hours: 54 lecture
Historical development, philosophy of law, and constitutional provisions; definitions, classifications of crimes and their applications to the system of administration of justice; legal research, review of case law, methodology, and concepts of law as a social force. Explores concepts of crimes against persons, property, and the state in social, religious, and historical contexts. (CSU, UC)

ADMJ 56 INTRODUCTION TO EVIDENCE
Units: 3
Hours: 54 lecture
Origin, development, philosophy and legal basis of evidence; types of evidence; ways of presenting evidence; judicial decisions and statutory rules of evidence governing the admissibility of testimony, writings, materials and objects at a criminal trial; constitutional and procedural considerations affecting searches, seizures, admissions, confessions and methods of identification. (CSU)
ADMJ 57 JUVENILE LAW AND PROCEDURE
Units: 3
Hours: 54 lecture
Organization, functions and jurisdiction of juvenile agencies; the processing and detention of juveniles; techniques of handling juvenile offenders and victims; prevention and suppression of delinquency; diagnosis and referral; community resources; law and court procedures. (CSU)

ADMJ 58 COMMUNITY AND HUMAN RELATIONS
Units: 3
Hours: 54 lecture
In-depth survey of the relationship between the criminal justice system and the community; causal and symptomatic aspects of community misunderstanding, lack of cooperation and mistrust; the concept that community relations develop through a continuing process of interaction between the criminal justice practitioner and members of the public. Methods for understanding how such a relationship is developed, maintained and changed; major cultural groups in California. (CSU, UC)

ADMJ 60 DEFENSIVE TACTICS FOR LAW ENFORCEMENT
Units: 1
Hours: 36 (18 lecture, 18 laboratory)
Skills and techniques to address combative subjects both armed and unarmed; includes take downs, control holds, escapes, handcuffing, and weapon retention or removal. (not transferable)

ADMJ 61A FIREARMS FAMILIARIZATION
Units: 2
Hours: 54 (27 lecture, 27 laboratory)
Introductory course covering history of firearms, types and selection of weapons, ammunition and auxiliary equipment, firearm nomenclature, principles of safe shooting, weapon safety, maintenance and care, legal and moral aspects of weapon usage for both law enforcement and non-law enforcement, and development of individual shooting skills and safety. Qualifying at the firing range with a handgun. Safety fee required. (not transferable)

ADMJ 61B ADVANCED FIREARMS
Units: 2
Prerequisite: Completion of any of the following: ADMJ 61A; 61C; 112; 115; 120; Basic Police Academy Course certified by California P.O.S.T.
Hours: 54 (27 lecture, 27 laboratory)
An advanced course further developing skills and theory introduced in ADMJ 61A, with practical applications in varied complex settings. Emphasis on further study and practice of functional testing of firearms, sight alignment adjustments, and self-evaluation of shooting performance. Development of additional skills and knowledge necessary to teach firearm safety and techniques to enhance shooting skills. Safety fee required. (not transferable)

ADMJ 61C FIREARMS: SEMI-AUTOMATICS
Units: 2
Hours: 54 (27 lecture, 27 laboratory)
Practical semi-automatic handgun course. Includes history and evolution of semi-automatics, types and uses, nomenclature, ammunition, marksmanship techniques, malfunctions, safety, and development of individual shooting skills. Safety fee required. (not transferable)

ADMJ 61D FIREARMS INSTRUCTOR
Units: 2
Prerequisite: Successful completion of ADMJ 61A, 61B and 61C; or completion of ADMJ 61B and a California Commission on Peace Officer Standards and Training (POST) certified Police Academy
Hours: 54 (36 lecture, 18 laboratory)
Knowledge and skills to train others in firearm safety, marksmanship and range program development. Includes fundamentals of marksmanship, curriculum development, firearms safety, range management, handgun/shotgun theory and nomenclature, developing qualification courses and diagnosing shooting problems through practical shooting exercises. Firearms Instructor certificate issued for those achieving 80% on the written examination and range qualifications. (not transferable)

ADMJ 61E FIREARMS INSTRUCTOR POST
Units: 2.5
Prerequisite: Successful completion of a California Commission on Peace Officer Standards and Training (POST) certified Police Academy and possess a POST basic certificate
Hours: 80 (36 lecture, 44 laboratory)
Knowledge and skills to train police officers in firearm safety, marksmanship and range program development. Includes fundamentals of marksmanship, curriculum development, firearms safety, range management, handgun/shotgun theory and nomenclature, developing qualification courses and diagnosing shooting problems through practical shooting exercises. Firearms Instructor certificate issued for those achieving 80% on the written examination and range qualifications. Safety fee required. (not transferable)

ADMJ 62 INTRODUCTION TO CORRECTIONS
Units: 3
Hours: 54 lecture
A survey of the field of correctional science. Historical development, current concepts and practice; explanations of criminal behavior; functions and objectives of the criminal justice system concerned with institutional, probation, and parole processes as they modify the offender’s behavior; survey of professional career opportunities in public and private agencies. (CSU)
ADMJ 67 MANAGING THE ADULT OFFENDER
Units: 3
Advisory: Completion of ADMJ 62 recommended
Hours: 54 lecture
A survey course emphasizing behavior and characteristics of male and female offenders and the role of the correctional employee. Institutional environment, inmate subcultures, values, victimology, and gangs also discussed and analyzed. Population management issues, statistics, inmate rights, discipline and contemporary custody and treatment techniques identified and studied. (CSU)

ADMJ 69 INSTITUTIONAL CORRECTIONS AND CASEWORK
Formerly known as ADMJ 63 and 66
Units: 3
Hours: 54 lecture
Institutional security levels, operations, and design. Inmate classification, institutional programs, treatment and intervention modalities and casework responsibility. Fiscal issues, legislation, current issues and societal attitudes affecting corrections. Custodial and ancillary career opportunities. Tours of various correctional institutions required. (CSU)

ADMJ 70 SUBSTANTIVE LAW
Units: 3
Hours: 54 lecture
An in-depth study of penal and other codes which have an application to law enforcement. Includes misdemeanor and felony violations of the criminal statutes involving crimes against persons and property, public peace, dangerous weapons, narcotics, and vice violations. (CSU)

ADMJ 72 ILLEGAL DRUGS—RECOGNITION AND INFLUENCE
Units: 3
Hours: 54 lecture
Study of current drugs of abuse including identification, street terms, prices, methods of use, history, and recognizing persons under the influence. Current law and law enforcement trends. Introduction to human physiology and drugs. (CSU)

ADMJ 73 WRITING FOR CRIMINAL JUSTICE
Units: 3
Hours: 54 lecture
Techniques of communicating facts, information, and ideas effectively in a simple, clear, and logical manner in the various types of criminal justice system reports; letters, memoranda, directives, and administrative reports; emphasis on criminal justice terminology, use of English, and organization of information. Practical experience in note taking and report writing; presentation of testimony in court. (CSU)

ADMJ 74 COMPUTER USE IN CRIMINAL JUSTICE
Units: 3
Hours: 72 (54 lecture, 18 laboratory)
An introduction to system strategies and computer techniques used by law enforcement agencies. Computer procedures, terminology, and program applications that produce crime support data. Database applications found in law enforcement identification, CAD (Computer Assisted Dispatch) systems, statistics, investigations and records management systems. (CSU)

ADMJ 75 VALUES AND ETHICS IN CRIMINAL JUSTICE
Units: 3
Hours: 54 lecture
Stresses the importance of values and ethics and appropriate moral judgments necessary in the administration of justice field. Provides an understanding of values and integrity which must be displayed, and communication skills necessary to be an effective criminal justice practitioner. (CSU)

ADMJ 76 STREET AND PRISON GANGS
Units: 3
Hours: 54 lecture
Theories of gang membership and behavior; law enforcement, community, and correctional intervention; characteristics and activities of prison and street gangs; impact on correctional and law enforcement operations and society. (CSU)

ADMJ 88 COMPUTER FORENSICS
Also known as CIS 88
Units: 3
Advisory: Completion of ADMJ 54
Hours: 72 (54 lecture, 18 laboratory)
Introduces tools and techniques of preserving and investigating digital evidence in a systematic and scientifically reliable manner using modern computer forensic software applications. Students introduced to the interpretation and analysis of recovered data for the purpose of collecting legal evidence. Exposure to data in an array of formats and applications from several computer types and operating systems as well as deleted, encrypted, and damaged information. Evidence reporting practices also introduced. (CSU)

ADMJ 89 FRAUD EXAMINATION
Units: 3
Advisory: Completion of ADMJ 54
Hours: 54 lecture
Covers principles and methodology of fraud detection and deterrence. Includes topics such as skimming, cash larceny, check tampering, register disbursement schemes, billing schemes, payroll and expense reimbursement schemes, non-cash misappropriations, corruption, accounting principles and fraud, fraudulent financial statements, and interviewing witnesses. (CSU)
ADMJ 95 INTERNSHIP IN ADMINISTRATION OF JUSTICE
Units: 0.5-4
Designed for advanced students to work in an area related to their educational or occupational goal. Provides new on-the-job technical training under the direction of a worksite supervisor, allowing students to expand knowledge and skills in the chosen field. Mandatory orientation session and faculty approval to determine eligibility. Students may earn up to a total of 16 units in internship courses (any course numbered 95 and PDEV 94). (CSU—with unit limitation)

ADMJ 110 P.C. 832: ARREST AND CONTROL
Units: 2
Hours: 44 (36 lecture, 8 laboratory)
Covers ethics, courts, community relations, laws of arrest, use of force, search and seizure, investigations, and arrest and control methods. Meets California Penal Code Section 832 requirement for individuals having limited Peace Officer powers to complete a training course prescribed by the Commission on Peace Officer Standards and Training (POST). No longer meets modular Police Academy requirements. (not transferable)

ADMJ 112 P.C. 832: FIREARMS
Units: 0.5
Prerequisite: California Department of Justice certification of no disqualifying criminal history background preventing attendance
Advisory: Completion of ADMJ 110 or equivalent
Hours: 24 (8 lecture, 16 laboratory)
Covers use of lethal force, shooting principles, safety guidelines and range qualifications. Meets California Penal Code Section 832 firearms requirement for individuals having limited Peace Officer powers to complete a training course prescribed by the Commission on Peace Officer Standards and Training (POST). (pass/no pass grading) (not transferable)

ADMJ 115 POST MODULAR III TRAINING
Units: 7
Prerequisite: California Department of Justice certification of no disqualifying criminal history background preventing attendance and Department of Motor Vehicles clearance
Advisory: Successful completion of ADMJ 61A or equivalent; ADMJ 73 or equivalent; and ENGL A or equivalent
Hours: 167 (107 lecture, 60 laboratory)
Satisfies Module III training requirements of the Commission on Peace Officer Standards and Training Module III. Covers professionalism and ethics, report writing, preservation of evidence, crimes against the justice system, vehicle operations, traffic enforcement, laws of search and seizure, custody, arrest/control/baton, emergency care, firearms/chemical agents, community policing, information systems and cultural diversity issues. Safety and materials fees required. May be repeated for credit to meet legally mandated education/training requirements. (not transferable)

ADMJ 120 POST MODULAR II TRAINING
Units: 9
Prerequisite: Completion of Commission on Peace Officer Standards and Training Module III training standards and California Department of Justice certification of no disqualifying criminal history background preventing attendance, and Entry Level Law Enforcement Test Battery with a minimum t-score of 40
Advisory: Completion of ADMJ 61C or equivalent; ADMJ 73 or equivalent; and ENGL A or equivalent
Hours: 223 (138 lecture, 85 laboratory)
Satisfies training requirements of the Commission on Peace Officer Standards and Training Level II module. Covers community relations, criminal laws, search and seizure, evidence, report writing, enforcement techniques, crime scene investigation, property crimes, crimes against persons, investigations, arrest and control, firearms/chemical agents, crimes against the justice system, and cultural diversity/discrimination. Safety and materials fees required. May be repeated for credit to meet legally mandated education/training requirements. (not transferable)

ADMJ 151 ADMINISTRATION OF JUSTICE PATHWAYS
Units: 2
Hours: 40 lecture
Covers career pathways in the Administration of Justice. Includes educational planning of available degree programs, labor market research, and the hiring process: development of a resume, background investigations, personal history statements, interview dynamics, and hiring examinations. (not transferable)

ADMJ 200 DOMESTIC VIOLENCE EDUCATION AND AWARENESS
Units: 3
Hours: 54 lecture
Covers historical, cultural, and psychological factors, precursors and effects of domestic violence. Responsibilities and processes of medical, mental health, law enforcement, courts, and advocacy professionals are studied. Crisis intervention and counseling techniques are addressed. Examines legal issues, mandated reporting, protective orders, victim rights and available resources. (not transferable)

ADMJ 300 SELECTED TOPICS IN ADMINISTRATION OF JUSTICE
Units: 0.5-4
Courses of study will cover topics relevant to the discipline. Topics will vary. Course content and unit credit to be determined by the division. May be offered as seminar, lecture, or lecture/laboratory classes. Students may repeat “300” courses within a discipline only when a topic is different from previously completed course. See Selected Topics page in catalog. (CSU)
ADMJ 400 SELECTED TOPICS IN ADMINISTRATION OF JUSTICE
Units: 0.5-4
Courses of study will cover topics relevant to the discipline. Topics will vary. Course content and unit credit to be determined by the division. May be offered as seminar, lecture, or lecture/laboratory classes. Students may repeat “400” courses within a discipline only when a topic is different from previously completed course. See Selected Topics page in catalog. (not transferable)

ADMJ 610 SPECIAL WEAPONS AND TACTICS—ADVANCED
Units: 0.5
Prerequisite: Completion of POST Basic Academy and employment as a Peace Officer assigned to a Special Weapons and Tactics team
Hours: 24 (5 lecture, 19 laboratory)
Reality based training focusing on team challenges designed to test a SWAT team’s methods and capabilities. Emphasis on team movement, hostage rescues, advanced firearms usage, physical endurance, and team problem exercises. May be repeated for credit to meet legally mandated requirements. (pass/no pass grading) (not degree applicable)

ADMJ 630 PROFESSIONAL TRAINING FOR CRIMINAL JUSTICE PERSONNEL
Units: 0.5-3
Prerequisite: Appropriate federal and/or state certification (POST/STC) entry standards
Hours: 54 laboratory per unit
Satisfies required standards for law enforcement personnel in areas of knowledge, techniques and perishable skills. Emphasis on laws of arrest; search and seizure; first aid and CPR; firearms; defensive tactics; illegal drugs, officers safety; civil liability; ethics; communication skills; interview and interrogations; investigations; crime scene processing and report writing. May be repeated for credit to meet legally mandated education/training requirements. (pass/no pass grading) (not degree applicable)

ADMJ 631 SPANISH FOR LAW ENFORCEMENT
Units: 0.5
Prerequisite: Completion of PC 832, Academy Module III or POST Basic Academy
Hours: 9 lecture
Functional Spanish course designed for Law Enforcement personnel. Students will learn the basic commands to complete a car stop, handcuffing and the Miranda advisement. (pass/no pass grading) (not degree applicable)

ADMJ 632 CRIME SCENE INVESTIGATIONS FOR THE PATROL OFFICER
Units: 0.5
Prerequisite: Completion of POST Basic Academy
Hours: 16 lecture
Fine tune the skills obtained in the Basic Academy regarding crime scene investigations for the patrol officer. Topics include fingerprinting, chain of evidence, videographing and the recognition of evidence and the importance of recording placement. (pass/no pass grading) (not degree applicable)

ADMJ 633 MEDIA RELATIONS FOR LAW ENFORCEMENT
Units: 0.5
Hours: 9 lecture
Designed to prepare the line officer to work with the media and give a press release. (pass/no pass grading) (not degree applicable)

ADMJ 634 REPORT WRITING REVIEW FOR LAW ENFORCEMENT
Units: 0.5
Prerequisite: Completion of PC 832 (ADMJ 110), Academy Module III (ADMJ 115), or POST Basic Academy
Hours: 9 lecture
Course designed for law enforcement personnel who need a refresher report writing course. (pass/no pass grading) (not degree applicable)

ADMJ 635 INTERVIEW AND INTERROGATION FOR LAW ENFORCEMENT
Units: 0.5
Prerequisite: Completion of POST Basic Academy
Hours: 9 lecture
Designed to provide officers with the knowledge to recognize distinct differences between interviews and interrogations. Legal issues and how to obtain truth from suspects, witnesses and victims will also be covered. (pass/no pass grading) (not degree applicable)
Agriculture

SCIENCES & MATHEMATICS
DEAN: Heather Roberts
ASSOCIATE DEAN: Michael Kane
DIVISION OFFICE: V 211
FACULTY: M. Macfarlane
liaison Counselors: M. Braga, E. Farrelly

California is home to the largest food and agricultural economy in the nation. California's farmers and ranchers have made this state the leader in agricultural production for more than 50 years. With 350 crops and an agricultural economy that exceeds $28 billion, the rest of the world looks to California to see what's next in agriculture.

Students enrolled in the Agriculture courses receive both theoretical scientific knowledge and practical hands-on training—both very necessary to become successful in a career in agriculture. Students also learn about the complex interrelationships between agriculture, the environment, political and social forces and other sectors of the economy.

The Agriculture Department offers A.S. degrees and certificates in Agriculture, Animal Science and Equine Studies. All of the agriculture programs are designed to be student-centered and offer flexibility in course offerings allowing students to customize each degree based on their specific interests and career or educational goals.

TRANSFER AND MAJOR REQUIREMENTS in Agriculture are available in the Counseling Center. In all cases, students should consult with a counselor for specific transfer requirements.

AGRICULTURE
A.S. DEGREE AND/OR CERTIFICATE
(formerly general agriculture)
This broad-based degree/certificate combines plant and soil science, animal science and business in a hands-on approach to prepare students for the workforce or for transfer to a four-year institution. Students must fulfill major requirements and all associate degree requirements for the A.S. degree; see pages 42-43. A certificate is designed to provide career technical skills; it is not equivalent to an A.S. degree.

REQUIRED CORE COURSES (14 UNITS)
AGRI 156 Horticultural Plant Science (also BIOL 21) .................. 4
AGRI 200 Introduction to Animal Science ............................... 4
AGRI 215 Introduction to Agricultural Business & Economics .... 3
AGRI 221 Introduction to Soil Science ................................. 3

PLUS 12 ADDITIONAL UNITS FROM THE FOLLOWING:
AGRI 28 Independent Study ........................................ 1-3
AGRI 95 Internship in Agriculture ................................... 1-3
AGRI 120 Introduction to Wines ........................................ 3
AGRI 132 Introduction to Winemaking ................................. 4
AGRI 133 Introduction to Viticulture .................................. 3
AGRI 158A Plant Identification OR
AGRI 158B Plant Identification .......................................... 3
AGRI 159 Integrated Pest Management ................................ 3
AGRI 160A Fall Propagation Lab OR
AGRI 160B Spring Propagation Lab ..................................... 1
AGRI 163 Wildland Trees & Shrubs (Dendrology) (also BIOL 24) 4
AGRI 164 Sustainable Tree Care ......................................... 3
AGRI 198 Food, Society & the Environment .......................... 3
AGRI 203 Animal Feeds and Nutrition ................................ 4
AGRI 225 Introduction to Equine Science and Management .... 3
AGRI 228 Equine Business Management ............................. 3
ESS 10 Conservation of Natural Resources .......................... 3

TOTAL UNITS REQUIRED: 26

Note: The courses listed above may or may not satisfy the Agriculture requirements at transfer colleges. See a counselor for specific transfer requirements.

ANIMAL SCIENCE
A.S. DEGREE AND/OR CERTIFICATE
(formerly animal husbandry)
This degree/certificate is a science-based program stressing production and management of livestock. Students learn to integrate business, animal production, plant production and issues which face the animal protein production sector of the food production industry preparing them for the workforce or for transfer to a four-year institution. Students must fulfill major requirements and all associate degree requirements for the A.S. degree; see pages 42-43. A certificate is designed to provide career technical skills; it is not equivalent to an A.S. degree.

REQUIRED CORE COURSES (21 UNITS)
AGRI 156 Horticultural Plant Science (also BIOL 21) ............... 4
AGRI 200 Introduction to Animal Science .............................. 4
AGRI 203 Animal Feeds and Nutrition .................................. 4
AGRI 215 Introduction to Agricultural Business & Economics .... 3
AGRI 221 Introduction to Soil Science ................................... 3
AGRI 225 Introduction to Equine Science and Management .... 3

PLUS 5 ADDITIONAL UNITS FROM THE FOLLOWING:
AGRI 28 Independent Study ........................................ 1-3
AGRI 95 Internship in Agriculture ................................... 1-3
AGRI 198 Food, Society & the Environment .......................... 3
AGRI 228 Equine Business Management ............................. 3
AGRI 236 Introduction to Horse Training ............................. 2.5
AGRI 245 Competitive Equine Riding ................................ 2

TOTAL UNITS REQUIRED: 26

Note: The courses listed above may or may not satisfy the Agriculture requirements at transfer colleges. See a counselor for specific transfer requirements.
EQUINE STUDIES
A.S. DEGREE AND/OR CERTIFICATE
This program offers a comprehensive learning experience in the areas of equine science and management. It provides a foundation in basics of riding, training, care, and management preparing students for entry into the workforce or for transfer to a four-year institution. Students must fulfill major requirements and all associate degree requirements for the A.S. degree; see pages 42-43. A certificate is designed to provide career technical skills; it is not equivalent to an A.S. degree.

REQUIRED CORE COURSES (14.5 UNITS) UNITS
AGRI 200 Introduction to Animal Science .......................... 4
AGRI 225 Introduction to Equine Science and Management .... 3
AGRI 228 Equine Business Management .......................... 3
AGRI 236 Introduction to Horse Training .......................... 2.5
AGRI 237 Horse Training II—Building a Foundation ............. 2

PLUS 10 ADDITIONAL UNITS FROM THE FOLLOWING:
AGRI 28 Independent Study ........................................ 1-3
AGRI 95 Internship in Agriculture ................................. 1-3
AGRI 156 Horticultural Plant Science (also BIOL 21) ............ 4
AGRI 203 Animal Feeds and Nutrition ........................... 4
AGRI 215 Introduction to Agricultural Business & Economics .... 3
AGRI 221 Introduction to Soil Management ........................ 3
AGRI 235 Basic Equine Handling .................................... 2
AGRI 245 Competitive Equine Riding ............................. 2
AGRI 248 Horse Training III—Advanced Horsemanship ........ 2
AGRI 250 Broodmare Management ................................. 1

TOTAL UNITS REQUIRED: 24.5
Note: The courses listed above may or may not satisfy the Agriculture requirements at transfer colleges. See a counselor for specific transfer requirements.

Agriculture Courses

AGRI 28 INDEPENDENT STUDY
Units: 1-3
Designed for students interested in furthering their knowledge at an independent study level. Independent study might include, but is not limited to, research papers, special subject area projects and research projects. May be taken four times for credit. See Independent Study page in catalog. (CSU, UC—with unit limitation)

AGRI 41 LANDSCAPE AND GARDEN MACHINE MAINTENANCE Also known as AUTO 55
Units: 2
Hours: 72 (18 lecture, 54 laboratory)
Minor repair and replacement of engine parts and accessories on two-stroke cycle engines and machines, including chain saws and machinery normally used in grounds maintenance. Includes fuel and ignition systems, cooling systems, belt and chain drives, transmissions, blade sharpening, and preventive maintenance procedures and adjustments. May be taken three times for credit. (not transferable)

AGRI 42 FOUR-CYCLE ENGINE MAINTENANCE AND REPAIR Also known as AUTO 56
Units: 2
Hours: 72 (18 lecture, 54 laboratory)
Minor and major maintenance and repair, tune-up and overhaul of four-cycle gasoline engines. Includes engines used for mowers, tillers, shredders, mulchers, pumps, sprayers, wood splitters, and garden tractors. May be taken twice for credit. (not transferable)

AGRI 95 INTERNSHIP IN AGRICULTURE
Units: 0.5-4
Designed for advanced students to work in an area related to their educational or occupational goal. Provides new on-the-job technical training under the direction of a worksite supervisor, allowing students to expand knowledge and skills in the chosen field. Mandatory orientation session and faculty approval to determine eligibility. Students may earn up to a total of 16 units in internship courses (any course numbered 95 and PDEV 94). (CSU—with unit limitation)

AGRI 120 INTRODUCTION TO WINES
Units: 3
Prerequisite: Students must be at least 21 years of age—California State Law
Advisory: Eligibility for ENGL 1A or ESL 40W strongly recommended
Hours: 54 lecture
An overview of world and California wine production and its role in history and distribution. Winemaking, sensory evaluation, wine selection and food will be explored. Materials fee will be assessed. Field trips required. (CSU, UC—with unit limitation)

AGRI 132 INTRODUCTION TO WINEMAKING
Units: 4
Prerequisite: Students must be at least 21 years of age—California State Law
Advisory: Eligibility for ENGL 1A or ESL 40W strongly recommended
Hours: 108 (54 lecture, 54 laboratory)
An introduction to the history, chemistry and technology of winemaking, with an emphasis on the California industry and other major wine producing regions. (CSU, UC—with unit limitation)

AGRI 133 INTRODUCTION TO VITICULTURE
Formerly known as HORT 3
Units: 3
Advisory: Eligibility for ENGL 1A or ESL 40W
Hours: 90 (36 lecture, 54 laboratory)
Introduction to viticulture. Includes grape growing, history of grape cultivation for table and wine grapes, grape species, cultivated varieties and rootstocks, distribution, botany, anatomy, propagation, cultivation, soil and plant nutrition, climate, and vineyard establishment and management basics. Field trips included. (CSU, UC—with unit limitation)
AGRI 156 HORTICULTURAL PLANT SCIENCE
Formerly known as HORT 2
Also known as BIOL 21
Units: 4
Advisory: Eligibility for ENGL 1A or ESL 40W
Hours: 108 (54 lecture, 54 laboratory)
Introduction to biological principles of horticultural practices emphasizing structure, growth, physiology and reproduction of flowering plants and their responses to modifications and environment; including propagation, media, soil and plant nutrition. Explores the interrelationship of horticulture with other life sciences and technology. Identifies the value of plants and gardens in past and present societies. (CSU, UC)

AGRI 158A PLANT IDENTIFICATION
Formerly known as HORT 35A
Units: 3
Hours: 90 (36 lecture, 54 laboratory)
Designed to develop skills for identifying and selecting plants whose requirements fit specific criteria for landscape and garden applications. Topics include species identification, growth habits, culture and ornamental use of plants adapted to climates of California. Emphasis on plants from the current California Association of Nurserymen and Garden Centers (CANGC) and Associated Landscape Contractors of America (ALCA) Certification Test Plant Lists. Focus on species best observed in fall months. Ability to hike moderate distances may be required. Students may begin with either AGRI 158A or AGRI 158B. (CSU, UC—with unit limitation)

AGRI 158B PLANT IDENTIFICATION
Formerly known as HORT 35B
Units: 3
Hours: 90 (36 lecture, 54 laboratory)
Designed to develop skills for identifying and selecting plants whose requirements fit specific criteria for landscape and garden applications. Topics include species identification, growth habits, culture and ornamental use of plants adapted to climates of California. Emphasis on plants from the current California Association of Nurserymen and Garden Centers (CANGC) and Associated Landscape Contractors of America (ALCA) Certification Test Plant Lists. Focus on species best observed in spring months. Ability to hike moderate distances may be required. Students may begin with either AGRI 158A or AGRI 158B. (CSU, UC—with unit limitation)

AGRI 159 INTEGRATED PEST MANAGEMENT
Formerly known as HORT 52
Units: 3
Hours: 54 lecture
Comprehensive study of integrated pest management with emphasis on sustainable management practices of landscape and small crop pests. Includes identification and study of insects, weeds, plant diseases, vertebrate pests, and beneficial organisms. Studies least toxic pest control strategies, labeling, formulations and safe handling of pesticides. (CSU)

AGRI 160A FALL PROPAGATION LAB
Formerly known as HORT 134A
Units: 1
Hours: 54 laboratory
Provides an advanced level of skill, technique and experience in fall plant production. Continued in-depth studies of propagation materials, sexual and asexual reproduction, transplanting and planting. Preparation and use of propagation and planting media. Student’s involvement in organized plant sales is required. Students may take AGRI 160A and 160B combined a maximum of four times for credit. (not transferable)

AGRI 160B SPRING PROPAGATION LAB
Formerly known as HORT 134B
Units: 1
Hours: 54 laboratory
Provides an advanced level of skill, technique and experience in spring plant production. Continued in-depth studies of propagation materials, sexual and asexual reproduction, transplanting and planting. Preparation and use of propagation and planting media. Student’s involvement in organized plant sales is required. Students may take AGRI 160A and 160B combined a maximum of four times for credit. (not transferable)

AGRI 163 WILDLAND TREES AND SHRUBS (DENDROLOGY)
Formerly known as NATR 25
Also known as BIOL 24
Units: 4
Advisory: Eligibility for ENGL 1A or ESL 40W
Hours: 108 (54 lecture, 54 laboratory)
Botanical characteristics, taxonomy, physiology, and community relationships of the major trees and shrubs in the Western United States. Discussion of commercial uses and geographic ranges of these plants. Identifying specimens under field conditions and using herbarium specimens. (CSU)

AGRI 164 SUSTAINABLE TREE CARE
Formerly known as HORT 40
Units: 3
Hours: 90 (36 lecture, 54 laboratory)
Sustainable horticultural principles and practices for management and care of trees in urban and landscape settings. Includes tree biology and culture, proper tree selection, maintenance, planting, staking, pruning techniques, tree hazard assessment, and risk management. Current issues in urban forestry and trees in the urban environment will be covered. (CSU)

AGRI 182 WILDFLOWER IDENTIFICATION
Formerly known as HORT 181
Also known as BIOL 23
Units: 1
Hours: 26 (13 lecture, 13 activity)
Plant identification, terminology, keying, uses, and ecology. Field trips may require ability to hike moderate distances. (CSU)
AGRI 198 FOOD, SOCIETY & THE ENVIRONMENT
Units: 3
Advisory: Eligibility for ENGL 1A or ESL 40W recommended
Hours: 54 lecture
Multiple perspectives and global connections between the environment, society and food production. Emphasis on agriculture’s central position between nature and society and its key role in humanity’s search for a productive and sustainable environment. Exploration of complex issues surrounding population growth, food, and the environment. (CSU, UC)

AGRI 200 INTRODUCTION TO ANIMAL SCIENCE
Units: 4
Advisory: Eligibility for ENGL 1A or ESL 40W strongly recommended
Hours: 108 (54 lecture, 54 laboratory)
An overview of the principles of Animal Science and the interrelationships of domestic animals and mankind. The course introduces various disciplines, including cell function, genetics, anatomy and physiology, reproduction, nutrition, animal health, animal products and animal behavior. (CSU, UC)

AGRI 203 ANIMAL FEEDS AND NUTRITION
Formerly known as AGRI 12
Units: 4
Advisory: Eligibility for ENGL 1A or ESL 40W
Hours: 108 (54 lecture, 54 laboratory)
An introduction to the feeds and nutrition of animals including basic digestive system anatomy and physiology; composition and selection of feeds; characteristics of nutrients; principles of nutrition; nutrient requirements of non-ruminant and ruminant animals; and formulating diets to meet these requirements. (CSU)

AGRI 215 INTRODUCTION TO AGRICULTURAL BUSINESS & ECONOMICS
Units: 3
Advisory: Eligibility for ENGL 1A or ESL 40W recommended
Hours: 54 lecture
An overview of the role agriculture business plays in United States and world economies. Production and supply, marketing and demand, resource allocation, commodity pricing under perfect and imperfect competition will be some of the topics discussed as well as social and economic challenges of agriculture in urban and industrialized economies emphasizing California. (CSU, UC)

AGRI 221 INTRODUCTION TO SOIL SCIENCE
Units: 3
Advisory: Eligibility for ENGL 1A or ESL 40W recommended
Hours: 90 (36 lecture, 54 laboratory)
Soils as natural bodies formed by interactive environmental processes, classification and characteristics. Soils response to use and management including erosion, moisture retention, structure, cultivation, organic matter and microbiology. Laboratory topics include soil type, classification, soil reaction, soil fertility and physical properties of soil. (CSU, UC)

AGRI 225 INTRODUCTION TO EQUINE SCIENCE AND MANAGEMENT
Formerly known as AGRI 10
Units: 3
Advisory: Eligibility for ENGL 1A or ESL 40W recommended
Hours: 54 lecture
Survey of the equine industry, encompassing the development and role of the equine species throughout history, breed selection and development, conformation, nutrition, health and disease, reproductive management, basic stable management and facilities. (CSU, UC)

AGRI 228 EQUINE BUSINESS MANAGEMENT
Formerly known as AGRI 149
Units: 3
Advisory: Eligibility for ENGL 1A or ESL 40W recommended
Hours: 54 lecture
Fundamentals of equine business operations, including taxes, liability, insurance, software, and facility design. Emphasizes skills necessary to manage a ranch, barn, stable, boarding, breeding, or training facility. (not transferable)

AGRI 235 BASIC EQUINE HANDLING
Formerly known as AGRI 137
Units: 2
Hours: 63 (9 lecture, 54 activity)
Introduction to fundamentals of horse handling, with emphasis on safety. Identification of equine behavioral patterns, handling skills such as catching, haltering, tying, lunging and round-pen training, and recognizing how human/horse interactions affect equine behavior. Students are required to provide their own horse, tack and trailer unless other arrangements with the instructor have been made. May be taken twice for credit. (not transferable)
AGRI 236 INTRODUCTION TO HORSE TRAINING
Formerly known as AGRI 146
Units: 2.5
Advisory: Completion of AGRI 235 or equivalent experience
Hours: 72 (18 lecture, 54 activity)
A versatile approach to the basic principles involved in handling and training the green horse. Explanations, demonstrations, and supervised practice in ground work and starting a horse under saddle. Students are required to provide their own horse, tack and trailer unless other arrangements have been made with the instructor. May be taken three times for credit. (not transferable)

AGRI 237 HORSE TRAINING II—BUILDING A FOUNDATION
Formerly known as AGRI 147
Units: 2
Prerequisite: Successful completion of AGRI 236
Hours: 72 (18 lecture, 54 laboratory)
Explanations, demonstrations, and supervised practice in building a foundation on a started horse. Refining and developing subtle cues while training for control of the nose, neck, shoulder, rib and hip. Introduction of lateral and vertical flexion and assessment of safety issues pertaining to horse training. Students are required to provide their own horse, tack, and trailer. May be taken two times for credit. (not transferable)

AGRI 245 COMPETITIVE EQUINE RIDING
Units: 2
Advisory: Eligibility for ENGL 1A or ESL 40W
Hours: 72 (18 lecture, 54 laboratory)
Basic instruction on equine showmanship and show preparation. Must provide your own horse and transportation or contact the instructor to make other arrangements. May be taken four times for credit. Field trips will be required. (not transferable)

AGRI 248 HORSE TRAINING III—ADVANCED HORSEMANSHIP
Formerly known as AGRI 148
Units: 2
Prerequisite: Completion of AGRI 237
Hours: 72 (18 lecture, 54 laboratory)
Explanation, demonstration and supervised practice in finishing a horse for English or Western disciplines. Emphasis will be placed on individual (situations), problems and goals. Students are required to provide their own horse, tack and trailer. May be taken two times for credit. (not transferable)

AGRI 250 BROODMARE MANAGEMENT
Formerly known as AGRI 150
Units: 1
Hours: 18 lecture
Covers a month-by-month calendar of activities and management practices of the care of the broodmare and foal. Focus on reproductive physiology and anatomy, modern breeding techniques, genetically heritable diseases, care of the broodmare/foal and foaling considerations. May be taken two times for credit. (not transferable)

AGRI 300 SELECTED TOPICS IN AGRICULTURE
Units: 0.5-4
Courses of study will cover topics relevant to the discipline. Topics will vary. Course content and unit credit to be determined by the division. May be offered as seminar, lecture, or lecture/laboratory classes. Students may repeat “300” courses within a discipline only when a topic is different from previously completed course. See Selected Topics page in catalog. (CSU, UC—with unit limitation)

AGRI 400 SELECTED TOPICS IN AGRICULTURE
Units: 0.5-4
Courses of study will cover topics relevant to the discipline. Topics will vary. Course content and unit credit to be determined by the division. May be offered as seminar, lecture, or lecture/laboratory classes. Students may repeat “400” courses within a discipline only when a topic is different from previously completed course. See Selected Topics page in catalog. (not transferable)
Anthropology

**LIBERAL ARTS**
DEAN: Debra Sutphen
ASSOCIATE DEAN: Rebecca Bocchicchio
DIVISION OFFICE: W 107
FACULTY: M. Archer, J. Molina-Stidger
LIAISON COUNSELORS: M. Braga, Reyes Ortega

Anthropology is the academic discipline concerned with the study of the biological and cultural development of mankind. The approach is comparative and holistic, focusing attention on the physical behavioral characteristics of humans, the range of their variations worldwide, and the constants which cut across all human activity. Anthropological studies include people throughout the world since the beginning of human life.

TRANSFER MAJOR REQUIREMENTS in Anthropology are available in the Counseling Center. In all cases, students should consult with a counselor for specific transfer requirements. Positions for which four-year graduates in Anthropology are qualified are archaeologist, anthropology instructor, environmental consultant, and state and national park anthropologist.

**Anthropology Courses**

**ANTH 1 PHYSICAL ANTHROPOLOGY**
Units: 3
Hours: 54 lecture
Broad introduction to the science of physical anthropology. Topics include: the field of anthropology, the scientific method, evolutionary theory, genetics and inheritance, human variation, biology and behavior of living primates, and fossil evidence of human evolution. (CSU, UC)

**ANTH 1L PHYSICAL ANTHROPOLOGY LABORATORY**
Units: 1
Prerequisite: Completion of or concurrent enrollment in ANTH 1
Hours: 54 laboratory
Introductory laboratory course designed to investigate the science of biological anthropology. Areas of study include: the production and distribution of genetic variation, human osteology, human variation, comparative primate taxonomy, behavior and osteology, and fossil evidence for human evolution. Field trip required. (CSU, UC—with unit limitation)

**ANTH 2 CULTURAL ANTHROPOLOGY**
Units: 3
Hours: 54 lecture
Introduction to anthropological approaches in the study of human culture and diversity. Examines continuity and diversity in peoples' lifestyles, social institutions, and cultural practices in a variety of global societies. Cultural phenomena studied include language, kinship, families, economics, politics, gender, religion and ritual. Explores the impact of social changes, such as colonization, decolonization, and globalization. (CSU, UC)

**ANTH 4 NATIVE PEOPLES OF NORTH AMERICA**
Units: 3
Hours: 54 lecture
Anthropological survey of the peoples and cultures of North America. Emphasizes native ecological adaptations, languages, social organizations, religion, mythologies and world view, and artistic representations. Critical examination of the impact of tribal nations on each other as well as the interactions with other groups of people. Examines the roots of present-day conditions of Native communities and the contributions of Native Americans to the cultures of the Americas. Field trips may be required. (CSU, UC)

**ANTH 5 INTRODUCTION TO ARCHAEOLOGY**
Units: 3
Hours: 54 lecture
Survey of the history and theory of archaeology. Emphasis placed on techniques of archaeological data collection and analysis, cultural innovations and variations, reconstruction and interpretation of the past, and Cultural Resource Management work. Field trips may be required. (CSU, UC)

**ANTH 6 INTRODUCTION TO LINGUISTIC ANTHROPOLOGY**
Units: 3
Hours: 54 lecture
Introduction to the analytical techniques of linguistics and the demonstration of their relevance to language in sociocultural issues. Survey of core topics in linguistics and the relation of language to social, cultural and psychological factors. Also includes nonverbal communication, evolution of language abilities, minority languages and dialects, bilingualism, literacy, and the social motivation of language change. (CSU, UC)

**ANTH 7 NATIVE PEOPLES OF CALIFORNIA**
Units: 3
Hours: 54 lecture
Study of the many cultures of the native inhabitants of California from the prehistoric period to the present time. Introduction to the diversity and complexity of aboriginal California. Includes environmental adaptation, material culture, social structure, ideology and response to change. Explores the impact of interactions with other groups of people as well as the contributions of Native Californians to the cultures of the Americas. (CSU, UC)

**ANTH 9 MAGIC, WITCHCRAFT, RITUAL, MYTH AND RELIGION**
Units: 3
Hours: 54 lecture
Exploration of supernatural beliefs and practices around the world and over time. Cross-cultural survey and analysis of the forms and functions of myths, rituals, altered states of consciousness, spirit possession, messianic and cargo cults, witchcraft, and curing. Investigation of the relationship between medicine, science, myth, and supernatural belief systems in Western and non-Western societies. (CSU, UC)
ANTH 10 INTRODUCTION TO FORENSIC ANTHROPOLOGY
Units: 3
Hours: 54 lecture
Overview of forensic anthropology, an applied field of physical anthropology. Emphasis on current techniques used in the analysis of human skeletal remains, medico-legal procedures, and the role of the anthropologist in the investigative process. Examines the basics of bone biology, methods of skeletal analysis, and recognition of bone pathology and trauma. (CSU, UC)

ANTH 12 ANTHROPOLOGY OF GAMES AND PLAY
Units: 3
Hours: 54 lecture
Study the role of play, the experience of fun and the influence of games in our lives. Develops methodological and conceptual tools used in the academic and/or commercial analysis of games and their development. Use knowledge and skills gained to design and implement our own games. (CSU)

ANTH 14 GLOBALIZATION STUDIES
Units: 3
Hours: 54 lecture
Exploration of globalization and its effects. Addresses issues such as the historical, political, economic, cultural and environmental impacts of globalization. Development of tools for evaluating globalization in general as well as its local manifestations. (CSU, UC)

ANTH 27 GENDER, SEX AND CULTURE
Units: 3
Hours: 54 lecture
A cross-cultural comparison of gender roles and sexuality viewed from biological, evolutionary and socio-cultural perspectives. Addresses contemporary, traditional and prehistoric societies. Explores the relationship between language and gender ideologies and practices in all societies. (CSU, UC)

ANTH 28 INDEPENDENT STUDY
Units: 1-3
Designed for students interested in furthering their knowledge at an independent study level in an area where no specific curriculum offering is currently available. Independent study problems might include, but are not limited to, research papers, special subject area projects, and research projects. May be taken four times for credit. See Independent Study page in catalog. (CSU, UC—with unit limitation)

ANTH 300 SELECTED TOPICS IN ANTHROPOLOGY
Units: 0.5-4
Courses of study will cover topics relevant to the discipline. Topics will vary. Course content and unit credit to be determined by the division. May be offered as seminar, lecture, or lecture/laboratory classes. Students may repeat “300” courses within a discipline only when a topic is different from previously completed course. See Selected Topics page in catalog. (CSU, UC—with unit limitation)

Applied Art and Design

LIBERAL ARTS
DEAN: Debra Sutphen
ASSOCIATE DEAN: Rebecca Bocchicchio
DIVISION OFFICE: W 107
FACULTY: T. Fillebrown, R. Gregg, N. Rishe, R. Snook
LIAISON COUNSELORS: N. Martinis, M. Moon, Rebecca Ortega

Applied Art and Design is an academic discipline which focuses on the principles and practical applications of art, design, photography, computer graphics, imaging and animation. Study of the foundations of design, creative problem solving, portfolio development, and internship experiences, all prepare students for transfer programs and career opportunities. Within the A.A./A.S. degree or certificate options, students may concentrate in Graphic Design, Illustration, or Multimedia. Students who successfully complete the Applied Art and Design major can expect to find entry level employment in such areas as digital illustration, graphic design for print and internet, multimedia, animation, photographic retouching, and pre-press operation.
APPLIED ART & DESIGN—
GRAPHIC DESIGN CONCENTRATION
A.A. OR A.S. DEGREE
Successful completion of the curriculum in Graphic Design qualifies students for entry level positions in graphic design, Web design, desktop publishing and packaging design. This option also prepares students for transfer to a four-year college program in Graphic Design. Students must fulfill major requirements and all associate degree requirements for the A.A./A.S. degree; see pages 42-43.

REQUIRED COURSES
12 UNITS FROM THE FOLLOWING CORE: UNITS
AAD 12 Visual Communication (also COMM 12) 3
AAD 70 Introduction to Digital Art and Design 3
AAD 75 Introduction to Digital Imaging (also PHOT 75) 3
ART 4A Drawing 3
ART 6A Design OR
ART 6C Color Theory 3

PLUS 9 UNITS FROM THE FOLLOWING:
AAD 52 Publication Design I 3
AAD 53 Publication Design II 3
AAD 54 Typography 3
AAD 60 Graphic Design: Principles & Process 3
AAD 61 Graphic Design II: Digital Design and Production 3
AAD 62 Graphic Computer Illustration 3

PLUS 3 UNITS SELECTED FROM THE FOLLOWING, OR
UNUSED COURSES FROM PRECEDING REQUIREMENTS
(MAY INCLUDE ONE COURSE REPETITION)
AAD 20 Portfolio Development and Presentation 2
AAD 28 Independent Study 1-3
AAD 30 Photographing Works of Art (also PHOT 30) 5
AAD 65 Capturing Digital Images 1
AAD 85 Introduction to Web Design 3
AAD 86 Design for the Web 3
AAD 90 Interactive Multimedia Production 4
AAD 95 Internship in Applied Art and Design 5-3
AAD 99 Digital Portfolio 3
PHOT 60A Elementary Photography OR
PHOT 80 Basic Color Photography 2-3

TOTAL UNITS REQUIRED: 24

APPLIED ART & DESIGN—
ILLUSTRATION CONCENTRATION
A.A. OR A.S. DEGREE
Successful completion of the curriculum in Illustration qualifies students for entry level positions as digital illustrators for use in graphic design, advertising, and book and card illustration. This option also prepares students for transfer to a four-year college program in Illustration. Students must fulfill major requirements and all associate degree requirements for the A.A./A.S. degree; see pages 42-43.

REQUIRED COURSES
12 UNITS FROM THE FOLLOWING CORE: UNITS
AAD 12 Visual Communication (also COMM 12) 3
AAD 70 Introduction to Digital Art and Design 3
AAD 75 Introduction to Digital Imaging (also PHOT 75) 3
ART 4A Drawing 3
ART 6A Design OR
ART 6C Color Theory 3

PLUS 9 UNITS FROM THE FOLLOWING:
AAD 55 Illustration (also ART 55) 3
AAD 62 Graphic Computer Illustration 3
AAD 71 Introduction to Digital Painting (also ART 71) 3
AAD 76 Advanced Projects in Digital Imaging (also PHOT 76) 3
AAD 83 Introduction to Three-Dimensional Modeling 3
ART 4B Drawing OR
ART 5A Figure Drawing OR
ART 54 Descriptive Drawing 3

PLUS 3 UNITS SELECTED FROM THE FOLLOWING, OR
UNUSED COURSES FROM PRECEDING REQUIREMENTS
(MAY INCLUDE ONE COURSE REPETITION)
AAD 20 Portfolio Development & Presentation 2
AAD 28 Independent Study 1
AAD 30 Photographing Works of Art (also PHOT 30) 5
AAD 60 Graphic Design: Principles & Process 3
AAD 65 Capturing Digital Images 1
AAD 85 Introduction to Web Design 3
AAD 95 Internship in Applied Art and Design 5-3
AAD 99 Digital Portfolio 3
ART 7A Painting: Oil OR
ART 8A Painting: Watercolor 3
PHOT 60A Elementary Photography OR
PHOT 80 Basic Color Photography 2-3
PHOT 78 Digital Photography 2

TOTAL UNITS REQUIRED: 24
APPLIED ART & DESIGN—MULTIMEDIA CONCENTRATION
A.A. OR A.S. DEGREE
Successful completion of the curriculum in Multimedia qualifies students for entry level positions as interactive media designers, computer game designers, interface designers, animators, and online web designers. This option also prepares students for transfer to a four-year college program in Multimedia. Students must fulfill major requirements and all associate degree requirements for the A.A./A.S. degree; see pages 42-43.

REQUIRED COURSES
12 UNITS FROM THE FOLLOWING CORE: UNITS
AAD 12 Visual Communication (also COMM 12) 3
AAD 70 Introduction to Digital Art and Design 3
AAD 75 Introduction to Digital Imaging (also PHOT 75) 3
ART 4A Drawing 3
ART 6A Design OR
ART 6C Color Theory 3

PLUS 9 UNITS FROM THE FOLLOWING:
AAD 79 Introduction to Video Production (also COMM 31A) 3
AAD 80 Introduction to Video Editing OR
AAD 81A Non-Linear Video Editing-Intensive I AND
AAD 81B Non-Linear Video Editing-Intensive II 3
AAD 83 Introduction to Three-Dimensional Modeling 3
AAD 85 Introduction to Web Design 3
AAD 86 Design for the Web 3
AAD 90 Interactive Multimedia Production 4
AAD 92 Programming for Multimedia 3
AAD 94 Digital Animation 4

PLUS 3 UNITS SELECTED FROM THE FOLLOWING, OR
UNUSED COURSES FROM PRECEDING REQUIREMENTS
(MAY INCLUDE ONE COURSE REPETITION)
AAD 28 Independent Study 1-3
AAD 54 Typography 3
AAD 60 Graphic Design: Principles & Process 3
AAD 62 Graphic Computer Illustration 3
AAD 65 Capturing Digital Images 1
AAD 71 Introduction to Digital Painting (also ART 71) 3
AAD 76 Advanced Projects in Digital Imaging (also PHOT 76) 3
AAD 95 Internship in Applied Art and Design 5-3
AAD 99 Digital Portfolio 3
ART 5A Figure Drawing 3
BUS 122 Marketing in the Digital Age 3
CIS 127 Creating Web Sites 3
CIS 137 Managing a Successful Web Project 3
CSCI 62 Web Programming I 3
CSCI 63 Web Programming II 3

TOTAL UNITS REQUIRED: 24

APPLIED ART & DESIGN—GRAPHIC DESIGN CONCENTRATION CERTIFICATE
The certificate in Graphic Design qualifies students for entry level positions in graphic design, web design, desktop publishing, and packaging design. The certificate is designed to focus on providing specific career technical skills; it is not equivalent to an A.A. or A.S. degree.

REQUIRED COURSES
12 UNITS FROM THE FOLLOWING CORE: UNITS
AAD 12 Visual Communication (also COMM 12) 3
AAD 70 Introduction to Digital Art and Design 3
AAD 75 Introduction to Digital Imaging (also PHOT 75) 3
ART 4A Drawing 3
ART 6A Design OR
ART 6C Color Theory 3

PLUS 8 UNITS SELECTED FROM THE FOLLOWING, OR
UNUSED COURSES FROM PRECEDING REQUIREMENTS
(MAY INCLUDE ONE COURSE REPETITION)
AAD 28 Independent Study 1-3
AAD 30 Photographing Works of Art (also PHOT 30) .5
AAD 65 Capturing Digital Images 1
AAD 85 Introduction to Web Design 3
AAD 90 Interactive Multimedia Production 4
AAD 95 Internship in Applied Art and Design 5-3
AAD 99 Digital Portfolio 3
PHOT 60A Elementary Photography OR
PHOT 80 Basic Color Photography 2-3

TOTAL UNITS REQUIRED: 32
**APPLIED ART & DESIGN—ILLUSTRATION CONCENTRATION CERTIFICATE**

The certificate in Illustration qualifies students for entry level positions as digital illustrators for use in graphic design, advertising, and book and card illustration. The certificate is designed to focus on providing specific career technical skills; it is not equivalent to an A.A. or A.S. degree.

**REQUIRED COURSES**

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<tbody>
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<tr>
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<td>ART 6A Design OR</td>
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<td>ART 6C Color Theory</td>
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**PLUS 12 UNITS FROM THE FOLLOWING:**

| AAD 55 Illustration (also ART 55) | 3 |
| AAD 62 Graphic Computer Illustration | 3 |
| AAD 71 Introduction to Digital Painting (also ART 71) | 3 |
| AAD 76 Advanced Projects in Digital Imaging (also PHOT 76) | 3 |
| AAD 83 Introduction to Three-Dimensional Modeling | 3 |
| ART 4B Drawing OR | |
| ART 5A Figure Drawing OR | |
| ART 54 Descriptive Drawing | 3 |

**PLUS 8 UNITS SELECTED FROM THE FOLLOWING, OR UNUSED COURSES FROM PRECEDING REQUIREMENTS (MAY INCLUDE ONE COURSE REPETITION):**

| AAD 20 Portfolio Development & Presentation | 2 |
| AAD 28 Independent Study | 1-3 |
| AAD 30 Photographing Works of Art (also PHOT 30) | 5 |
| AAD 60 Graphic Design: Principles & Process | 3 |
| AAD 65 Capturing Digital Images | 1 |
| AAD 85 Introduction to Web Design | 3 |
| AAD 95 Internship in Applied Art and Design | 5-3 |
| AAD 99 Digital Portfolio | 3 |
| ART 7A Painting: Oil OR | |
| ART 8A Painting: Watercolor | 3 |
| PHOT 60A Elementary Photography OR | |
| PHOT 80 Basic Color Photography | 2-3 |
| PHOT 78 Digital Photography | 2 |

**TOTAL UNITS REQUIRED: 32**

**APPLIED ART & DESIGN—MULTIMEDIA CONCENTRATION CERTIFICATE**

The certificate in Multimedia qualifies students for entry level positions as interactive media designers, computer game designers, interface designers, and on-line web designers. The certificate is designed to focus on providing specific career technical skills; it is not equivalent to an A.A. or A.S. degree.

**REQUIRED COURSES**

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<tr>
<td>ART 4A Drawing</td>
<td>3</td>
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<tr>
<td>ART 6A Design OR</td>
<td>3</td>
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<tr>
<td>ART 6C Color Theory</td>
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**PLUS 12 UNITS FROM THE FOLLOWING:**

| AAD 79 Introduction to Video Production (also COMM 31A) | 3 |
| AAD 80 Introduction to Video Editing OR | |
| AAD 81A Non-Linear Video Editing-Intensive I AND | |
| AAD 81B Non-Linear Video Editing-Intensive II | 3 |
| AAD 83 Introduction to Three-Dimensional Modeling | 3 |
| AAD 85 Introduction to Web Design | 3 |
| AAD 86 Design for the Web | 3 |
| AAD 90 Interactive Multimedia Production | 4 |
| AAD 92 Programming for Multimedia | 3 |
| AAD 94 Digital Animation | 4 |

**PLUS 8 UNITS SELECTED FROM THE FOLLOWING, OR UNUSED COURSES FROM PRECEDING REQUIREMENTS (MAY INCLUDE ONE COURSE REPETITION):**

| AAD 28 Independent Study | 1-3 |
| AAD 54 Typography | 3 |
| AAD 60 Graphic Design: Principles & Process | 3 |
| AAD 62 Graphic Computer Illustration | 3 |
| AAD 65 Capturing Digital Images | 1 |
| AAD 71 Introduction to Digital Painting (also ART 71) | 3 |
| AAD 76 Advanced Projects in Digital Imaging (also PHOT 76) | 3 |
| AAD 95 Internship in Applied Art and Design | 5-3 |
| AAD 99 Digital Portfolio | 3 |
| ART 5A Figure Drawing | 3 |
| BUS 122 Marketing in the Digital Age | 3 |
| CIS 127 Creating Web Sites | 3 |
| CIS 137 Managing a Successful Web Project | 3 |
| CSCI 62 Web Programming I | 3 |
| CSCI 63 Web Programming II | 3 |

**TOTAL UNITS REQUIRED: 32**
Applied Art & Design Courses

AAD 12 VISUAL COMMUNICATION
Also known as COMM 12
Units: 3
Hours: 54 lecture
Study of visual communication including design principles, aesthetics, visual perception, non-verbal messages, relationship to verbal communication, audience analysis and persuasion. Historical overview of visual media as well as current trends and technology. (CSU, UC)

AAD 20 PORTFOLIO DEVELOPMENT AND PRESENTATION
Units: 2
Hours: 36 lecture
Function and use of the portfolio as a marketing device for artists and designers. Styles, materials, resources in portfolio design. Evaluation of professional goals and image building. Students will create and present a portfolio of their work as a final project. For advanced students. (CSU)

AAD 28 INDEPENDENT STUDY
Units: 1-3
Designed for students interested in furthering their knowledge at an independent study level in an area where no specific curriculum offering is currently available. Independent study might include, but is not limited to, research papers, special subject area projects, and research projects. May be taken four times for credit. See Independent Study page in catalog. (CSU, UC—with unit limitation)

AAD 30 PHOTOGRAPHING WORKS OF ART
Also known as PHOT 30
Units: 0.5
Hours: 13 (7 lecture, 6 laboratory)
Methods and procedures involved in reproducing works of art into slides, prints or digital files for cataloging, portfolios, or publication. Covers equipment needed for both artificial and natural light situations, camera considerations, proper exposure, film types, and presentation of copy work for both two dimensional and three dimensional art. Students must furnish film, processing, storage and presentation materials. May be taken twice for credit. (CSU)

AAD 50 INTRODUCTION TO THE MACINTOSH COMPUTER
Units: 0.5
Hours: 13 (7 lecture, 6 activity)
Introduction to the Macintosh computer hardware and operating system. Basic skills including menu bar, opening and saving files, navigating, mouse and keyboard use. Memory, storage, and resolutions issues. Icons, terminology and common acronyms. Overview of peripherals and software used in art and design. (CSU)

AAD 52 PUBLICATION DESIGN I
Units: 3
Advisory: Completion of AAD 60 or AAD 70 with grade of "C" or better
Hours: 90 (36 lecture, 54 laboratory)
Introductory course in use of computer for page layout and composition. Critical application of basic computer operating principles. Emphasis on publication design and the use of type and layout as key elements in graphic communication. Covers importing text and graphics, arranging publication pages, and producing camera ready artwork for reproduction. May be taken two times for credit. (CSU)

AAD 53 PUBLICATION DESIGN II
Units: 3
Prerequisite: Completion of one of the following courses with grade of "C" or better: AAD 52, 54 or 62
Hours: 72 (36 lecture, 36 activity)
Page layout for developing and producing high-quality multi-page documents. Emphasis on publication design, production, typography, graphics, and pre-press. Includes research and application of effective magazine layout concepts, cover design, grid theory, graphics, text elements and printing standards and processes. May be taken two times for credit. (CSU)

AAD 54 TYPOGRAPHY
Units: 3
Prerequisite: Completion of AAD 60
Hours: 72 (36 lecture, 36 activity)
Typographic principles and form, effects of type on the style and communication in print and screen. Includes exposure to historical and contemporary graphics and typographic design, conceptualizing, developing and refining typographical forms, methods for analyzing typographic usage, proper application of type in a variety of print and screen environments, hand drawn and computer generated typed forms. May be taken twice for credit. (CSU)

AAD 55 ILLUSTRATION
Also known as ART 55
Units: 3
Prerequisite: Completion of ART 4A
Hours: 72 (36 lecture, 36 activity)
Professional practices of illustration, including concept development, communication of ideas, identification and use of appropriate styles and techniques, time management, and presentation of finished artwork. May be taken twice for credit. (CSU)
AAD 60 GRAPHIC DESIGN: PRINCIPLES AND PROCESS  
Units: 3  
Advisory: Completion of ART 4A or ART 6A  
Hours: 72 (36 lecture, 36 activity)  
Introductory course emphasizing concept development, fundamental principles of design and design solutions. Exploration of materials and techniques for visualizing and presenting ideas, analyzing and critiquing design and combining diverse elements in effective layouts from concept through final critique. May be taken two times for credit. (CSU)

AAD 61 GRAPHIC DESIGN II: DIGITAL DESIGN AND PRODUCTION  
Units: 3  
Prerequisite: Completion of one of the following with grade of “C” or better AAD 52, 62, or 75  
Advisory: Completion of AAD 60  
Hours: 90 (27 lecture, 63 activity)  
Advanced problem solving skills in graphic design through projects and critique. Use of the computer to design and produce full color graphics and print materials, including industry standards and procedures for working with art directors, service bureaus, and printers in pre-press operations. May be taken two times for credit. (CSU)

AAD 62 GRAPHIC COMPUTER ILLUSTRATION  
Units: 3  
Advisory: Completion of AAD 60, AAD 70, or ART 4A with a grade of “C” or better  
Hours: 90 (36 lecture, 54 laboratory)  
Computer illustration for effective graphic communication. Emphasis on software tools and techniques in creation of graphic illustrations for use in a wide range of media including print, multimedia, and World Wide Web. Application of design principles, the use of type and layout in combination with illustrations through class projects. Covers importing text and graphics, developing and executing design concepts, and producing camera ready artwork for reproduction using appropriate file formats and standards for integration into other electronic media. May be taken two times for credit. (CSU)

AAD 65 CAPTURING DIGITAL IMAGES  
Units: 1  
Advisory: Completion of AAD 50 recommended  
Hours: 26 (14 lecture, 12 laboratory)  
Digitizing images for use in various computer applications, including desktop publishing; paint and draw programs; digital photography; multimedia authoring; web image preparation and photojournalism. Introduction to flatbed and scanning, information on hardware and software. (CSU)

AAD 66 BUSINESS PRACTICES FOR THE APPLIED ARTS  
Units: 1  
Hours: 18 lecture  
Fundamental business practices for graphic designers, multimedia and illustration artists, photographers and other creative service providers. Initial client contact to final billing process. Basic elements of running a small studio including overview of license, taxes and bookkeeping. Production of invoices, purchase orders, job sheets and organizational forms. Discussion of business ethics in the arts, copyright protection, and working relationships with clients and suppliers. (CSU)

AAD 70 INTRODUCTION TO DIGITAL ART AND DESIGN  
Units: 3  
Hours: 72 (36 lecture, 36 activity)  
Introduction to fundamental concepts and techniques of art and design on the computer. Includes basic computer skills, digital image capture, image manipulation, drawing, page layout, and preparation of images for print, web or multimedia. Students develop creative projects using current graphics software. May be taken twice for credit. (CSU, UC)

AAD 71 INTRODUCTION TO DIGITAL PAINTING  
Also known as ART 71  
Units: 3  
Prerequisite: Completion of ART 4A  
Hours: 108 (27 lecture, 81 laboratory)  
Introduction to drawing and painting on the computer. Exploration of tools, color palettes, brush options, paper textures, effects and manipulation of layers and masks in a digital painting program. Includes integration of off-computer drawing and painting processes and techniques with digital image development. Projects are created in preparation for printing on artist’s quality papers, or for use in other digital applications and the World Wide Web. May be taken four times for credit. (CSU)

AAD 75 INTRODUCTION TO DIGITAL IMAGING  
Also known as PHOT 75  
Units: 3  
Advisory: Completion of AAD 70 recommended  
Hours: 72 (36 lecture, 36 activity)  
Introduction to electronic imaging and image processing with computers. Critical analysis and operating principles in the acquisition, processing, synthesis and printing of the electronic image. Basic computer scanning, retouching methods, image manipulation, printing and presentation of images. May be taken two times for credit. (CSU, UC)
AAD 76 ADVANCED PROJECTS IN DIGITAL IMAGING
Also known as PHOT 76
Units: 3
Advisory: Completion of PHOT 75/AAD 75 and PHOT 60A with grades of "C" or better recommended
Hours: 72 (36 lecture, 36 activity)
Advanced digital project development. Creating original images from a variety of input devices including scanners and digital cameras. Speed building in editing techniques. Use of various output methods appropriate for specific projects. Evaluations and critiques of completed projects. May be taken three times for credit. (CSU)

AAD 79 INTRODUCTION TO VIDEO PRODUCTION
Also known as COMM 31A
Units: 3
Hours: 90 (36 lecture, 54 laboratory)
Introduction to principles, techniques and the terminology of video production and post-production. Guided classroom exercises and projects, including pre-production planning, video and audio recording techniques, remote (field) system set-ups and studio set-ups, lighting for single camera video shoots, and basic video editing and output. May be taken two times for credit. (CSU)

AAD 80 INTRODUCTION TO VIDEO EDITING
Units: 4
Advisory: Completion of AAD 79/COMM 31A with grade of “C” or better
Hours: 108 (36 lecture, 72 activity)
An introduction to video editing using non-linear systems. Topics include basic video and audio capture, use of still images and graphics in video, addition of transitions, effects and filters, sequencing and pacing, sound manipulation, and the creation of original titles and audio tracks. Export and compression are covered for various outputs including Web, DVD, tape and archive. May be taken three times for credit. (CSU)

AAD 81A NON-LINEAR VIDEO EDITING—INTENSIVE I
Units: 1.5
Hours: 36 (18 lecture, 18 activity)
A fast paced, short-term introduction to non-linear video editing on the personal computer. Includes importing video clips, image and sound manipulation, basic editing techniques, including the use of transitions and filters, creation of titles and credits. (CSU)

AAD 81B NON-LINEAR VIDEO EDITING—INTENSIVE II
Units: 1.5
Hours: 36 (18 lecture, 18 activity)
A fast paced, intermediate course in non-linear video editing. Includes video capture, image and sound manipulation, more advanced editing techniques, including animation of still clips, and modification of sound and images in other programs. Students will create original video projects for use in other applications or for export to VHS tape. (CSU)

AAD 83 INTRODUCTION TO THREE-DIMENSIONAL MODELING
Units: 3
Advisory: Completion of AAD 70 and ART 4A with grades of “C” or better
Hours: 108 (27 lecture, 81 laboratory)
Three-dimensional modeling on the computer including construction of three-dimensional forms, use of surface textures, application of lighting effects, and animation of completed constructions. Students will create original projects including environments, objects, buttons, three-dimensional texts and animations for use in fine art, graphic design, multimedia and the World Wide Web. May be taken four times for credit. (CSU)

AAD 85 INTRODUCTION TO WEB DESIGN
Units: 3
Advisory: Completion of AAD 70 or 75 with grade of “C” or better
Hours: 90 (36 lecture, 36 laboratory, 18 activity)
An introduction to web design, covering topics and strategies necessary for the creation and design of websites. Topics include HTML, cascading style sheets, design issues specific to web delivery; the creation and optimization of graphics and images for the web, including rollovers, banners and buttons; accessibility; search engine optimization and current industry standards. May be taken three times for credit. (CSU)

AAD 86 DESIGN FOR THE WEB
Units: 3
Prerequisite: Completion of AAD 75 or PHOT 75
Hours: 72 (36 lecture, 36 activity)
Intermediate course in layout and design as applied to web site development. Includes design fundamentals including use of color, compositional arrangement and typography as well as technical skill development in image editing; creation of rollovers, animation and navigation elements, file optimization, slicing, and HTML setup. May be taken three times for credit. (CSU)

AAD 90 INTERACTIVE MULTIMEDIA PRODUCTION
Units: 4
Prerequisite: Completion of AAD 70 with grade of “C” or better
Hours: 108 (54 lecture, 54 laboratory)
Introduction to interactive, multimedia authoring. Assembly of media elements including digital images, sound, and video into cross-platform projects. Use of multimedia tools, scripts, and animation. Stylistic concerns, content development, and copyright issues studied. Students will create original, interactive multimedia projects appropriate for CD and World Wide Web presentation. May be taken three times for credit. (CSU)
AAD 92 PROGRAMMING FOR MULTIMEDIA
Units: 3
Prerequisite: Completion of AAD 90
Hours: 72 (36 lecture, 36 activity)
Writing script for multimedia authoring including time based programs and event based interactivity. Introduction to basic script elements, writing structured code, using event handler methods, inputting and outputting data and publishing projects. Used in multimedia to create games, build customizable interfaces, develop forms, work with changing data and controlling sound and video. May be taken four times for credit. (CSU)

AAD 94 DIGITAL ANIMATION
Units: 4
Advisory: Completion of AAD 70 and ART 4A
Hours: 108 (54 lecture, 54 laboratory)
Study of animation structure, concepts, development of storyboard, creation of graphics, use of timeline, and stage. Explores techniques of cell animation, straight ahead drawing to music, rotoscoping, digital tweening techniques, camera moves, angles and cuts, lip sync, acquisition, creation and manipulation of sound effects. Projects published for use on the Web, CD Rom and video. May be taken two times for credit. (CSU)

AAD 95 INTERNSHIP IN APPLIED ART AND DESIGN
Units: 0.5-4
Designed for advanced students to work in an area related to their educational or occupational goal. Provides new on-the-job technical training under the direction of a worksite supervisor, allowing students to expand knowledge and skills in the chosen field. Mandatory orientation session and faculty approval to determine eligibility. Students may earn up to a total of 16 units in internship courses (any course numbered 95 and PDEV 94). (CSU—with unit limitation)

AAD 99 DIGITAL PORTFOLIO
Units: 3
Advisory: Completion of AAD 65 and 70; AAD 62 or 71 or 75 recommended
Hours: 72 (36 lecture, 36 laboratory)
Function and use of a digital portfolio as a marketing device for artists and designers. Needs assessment, resources, styles, timeline, interface design, software tools, output media. Students will create and present a digital portfolio of their work as a final project. For advanced students in digital graphics. May be taken three times for credit. (CSU)

Art

LIBERAL ARTS
DEAN: Debra Sutphen
ASSOCIATE DEAN: Rebecca Bocchicchio
DIVISION OFFICE: W 107
FACULTY: C. Angleton, D. Brown, J. Keating, C. O’Connor
LIAISON COUNSELORS: E. Dickson, V. Rogers

The faculty of the Art Department is committed to the objective of making the arts of the past and present available to the students through historical surveys and the studio experience. It is believed that this heritage of thought and skill, going beyond our immediate time and culture, will enrich the students’ lives, their personal view of their world, and their communication of ideas, through added knowledge and inter-cultural understanding.

TRANSFER MAJOR REQUIREMENTS in Art are available in the Counseling Center. In all cases, students should consult with a counselor for specific transfer requirements. Positions for which four-year graduates in Art are qualified are professional artist, teacher, fine artist, and crafts artist.

ART
A.A. DEGREE
The A.A. program in Art is intended to prepare students for entry-level positions in the fine and applied art fields. The program seeks to provide breadth through basic requirements in two and three-dimensional studio and art history courses. Additional course work is selected by students toward specific career alternatives such as fine artist, graphic designer, crafts person, illustrator, or computer artist. Employment opportunities in these fields are highly dependent on the quality and breadth of one’s artistic portfolio. Students must fulfill major requirements and all associate degree requirements for the A.A. degree; see pages 42-43.

REQUIRED COURSES
6 UNITS FROM THE FOLLOWING:
ART 1A History of Prehistoric through Gothic Art .................. 3
ART 1B History of Renaissance to Mid-Nineteenth Century Art .. 3
ART 1C History of Modern to Contemporary Art ................... 3
ART 1D History of Asian Art ..................................... 3
ART 1E History of Women in Art .................................. 3
ART 1F Introduction to Islamic Art ................................. 3
ART 1G History of the Arts of Africa, the Americas, and Oceania. 3

PLUS 6 UNITS FROM THE FOLLOWING:
ART 4A Drawing .................................................. 3
ART 6A Design ................................................... 3

PLUS 3 UNITS FROM THE FOLLOWING:
ART 12A Introduction to Sculpture .................................... 3
ART 17 Ceramic Sculpture Studio ..................................... 3
ART 19 Figure Sculpture ........................................... 3
PLUS 12 ADDITIONAL UNITS FROM OTHER COURSES LISTED ABOVE, OR SELECTED FROM THE FOLLOWING:

ART 4B Drawing ........................................... 3
ART 5A Figure Drawing ................................ 3
ART 5B Figure Drawing ................................ 3
ART 6C Color Theory .................................... 3
ART 7A Painting: Oil ..................................... 3
ART 7B Painting: Oil ..................................... 3
ART 8A Painting: Watercolor ............................ 3
ART 8B Painting: Watercolor ............................ 3
ART 9A Painting: Opaque Water Media ............... 3
ART 9B Painting: Opaque Water Media ............... 3
ART 9S Painting, Drawing & Printmaking Studio AND/OR
ART 18S Ceramics Studio AND/OR
ART 19S Sculpture Studio ................................ 5-4
ART 10 Art Appreciation ................................ 3
ART 12B Sculpture ........................................ 3
ART 18A Ceramics I ....................................... 3
ART 18B Ceramics II ...................................... 3
ART 20 Raku Ceramics ................................... 3
ART 21 Primitive Ceramics ................................ 3
ART 22 Creative Design in Metal ........................ 3
ART 24 Advanced Art Metal Design .................... 3
ART 28 Independent Study ............................... 1-3
ART 31 Mural Art .......................................... 3
ART 32 Introduction to Fiber Arts ...................... 3
ART 33 Art Metal Casting ................................ 3
ART 40A Printmaking ..................................... 3
ART 40B Printmaking ..................................... 3
ART 41 Jewelry Design .................................... 3
ART 50 Art Gallery Operations .......................... 3
ART 52 Portrait Drawing and Painting ............... 3
ART 54 Descriptive Drawing ............................ 3
ART 80 Issues in Contemporary Art ................... 3
AAD 20 Portfolio Development and Presentation .... 2
AAD 30 Photographing Works of Art (also PHOT 30) .5
AAD 50 Introduction to the Macintosh Computer .. .5
AAD 52 Publication Design I ............................ 3
AAD 55 Illustration (also ART 55) ................. 3
AAD 60 Graphic Design: Principles & Process .... 3
AAD 61 Graphic Design II: Digital Design and Production .3
AAD 65 Capturing Digital Images ..................... 1
AAD 70 Introduction to Digital Art and Design ....... 3
AAD 75 Introduction to Digital Imaging (also PHOT 75) .... 3
AAD 90 Interactive Multimedia Production .......... 4
PHOT 60A Elementary Photography .................. 3
PHOT 60B Intermediate Photography ............... 3

TOTAL UNITS REQUIRED: 27

ART HISTORY

A.A. DEGREE

The A.A. program in Art History provides students with an understanding of the history of visual arts and architecture. Successful completion of the curriculum in Art History will prepare students for transfer to four-year colleges or universities. The program curriculum introduces students to the different art historical methodologies that shape the study of arts of the past and present. Students examine art objects stylistically and contextually while highlighting a relationship between the object and the cultural values and beliefs of its creators. Students also explore the role of the artist, the patrons, and the audience of art throughout history. The courses emphasize the fundamentals of visual analysis resulting in critical thinking and writing, as well as visual literacy. In all cases students should consult with a counselor for specific transfer requirements. Students must fulfill major requirements and all associate degree requirements; see pages 42-43.

REQUIRED COURSES

<table>
<thead>
<tr>
<th>COURSE</th>
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<tbody>
<tr>
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<tr>
<td>ART 4A Drawing</td>
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<tr>
<td>ART 1G History of the Arts of Africa, the Americas, and Oceania</td>
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<tr>
<td>ART 11 History and Aesthetics of Photography (also PHOT 10)</td>
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<td>ART 6C Color Theory</td>
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<td>ART 10 Art Appreciation</td>
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<td>ART 50 Art Gallery Operations</td>
<td>3</td>
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<td>ART 80 Issues in Contemporary Art</td>
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<td>AAD 12 Visual Communication (also COMM 12)</td>
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TOTAL UNITS REQUIRED: 24

(Student art work may be retained by the Department, at its discretion, for one year)

Art Courses

ART 1A HISTORY OF PREHISTORIC THROUGH
GOTHIC ART

Units: 3
Hours: 54 lecture
Study of architecture, sculpture and painting of the Ancient Near East and Europe from Prehistory through Middle Ages. (CSU, UC)
ART 1B HISTORY OF RENAISSANCE TO MID-NINETEENTH CENTURY ART  
Units: 3  
Hours: 54 lecture  
Study of painting, architecture, sculpture and graphic arts of European cultures from the Renaissance through mid-nineteenth century. (CSU, UC)

ART 1C HISTORY OF MODERN TO CONTEMPORARY ART  
Units: 3  
Hours: 54 lecture  
Study of the historical development of art and architecture in Europe and the United States from mid-nineteenth century to contemporary practice. (CSU, UC)

ART 1D HISTORY OF ASIAN ART  
Units: 3  
Hours: 54 lecture  
Study of the painting, sculpture, architecture and other art forms of India, China, Japan, Korea, and Southeast Asia from prehistoric times to present. (CSU, UC)

ART 1E HISTORY OF WOMEN IN ART  
Units: 3  
Hours: 54 lecture  
Women in the arts in world civilizations including their influence as artists and patrons as well as representations of women from Antiquity to the present. (CSU, UC)

ART 1F INTRODUCTION TO ISLAMIC ART  
Units: 3  
Hours: 54 lecture  
Islamic art and architecture from Arabic, Persian and Indian cultures. Formation of Islamic art, history, and philosophy. Works of art from Muslim countries and regions. Comparison with art from other major Asian cultures such as Buddhism and Hinduism as well as European traditional art inspired by religion. (CSU, UC)

ART 1G HISTORY OF THE ARTS OF AFRICA, THE AMERICAS, AND OCEANIA  
Units: 3  
Hours: 54 lecture  
Study of various art forms of the cultures of Africa, the Americas, and Oceania from prehistoric times to the present. (CSU, UC)

ART 4A DRAWING  
Units: 3  
Advisory: Eligibility for ENGL 1A  
Hours: 90 (36 lecture, 54 laboratory)  
Introduction to drawing, including gesture and contour drawing; rendering of volumetric form showing light and shadow; description of forms in space; and basic principles of compositional arrangement. Instruction in the use of black and white drawing media will include pencil, charcoal, and ink. References to various historical and cultural styles and techniques. (CSU, UC)

ART 4B DRAWING  
Units: 3  
Prerequisite: Completion of ART 4A  
Hours: 90 (36 lecture, 54 laboratory)  
Continued exploration of the various concerns of drawing, including gesture and contour drawing, rendering of volumetric form showing light and shadow, description of forms in space, and basic principles of compositional arrangement using color drawing media including pencils, pastels, and inks. Drawing will be studied with reference to various historical and cultural styles and techniques. (CSU, UC)

ART 5A FIGURE DRAWING  
Units: 3  
Prerequisite: Completion of ART 4A  
Hours: 90 (36 lecture, 54 laboratory)  
Drawing the human form using live models. Emphasis on the concepts of form in space, proportions, anatomical construction, dimensional composition. Development of self-expression and creativity through artwork employing the figure as the primary subject matter. Study of figurative art in historical and cultural contexts. Use of a wide variety of drawing materials to achieve various aesthetic effects. (CSU, UC)

ART 5B FIGURE DRAWING  
Units: 3  
Prerequisite: Completion of ART 5A  
Hours: 90 (36 lecture, 54 laboratory)  
Drawing the human form using live models. Continued concepts of form in space, proportions, anatomical construction, and dimensional composition. Development of self-expression and creativity through art work employing the figure as the primary subject matter. Study of figurative art in historical and cultural contexts. Use of a wide variety of drawing materials, including color media to achieve various aesthetic effects. Emphasis on completed compositions. May be taken three times for credit. (CSU, UC)
ART 6A DESIGN
Units: 3
Hours: 90 (36 lecture, 54 laboratory)
Study of the elements of space, line, texture, shape, value, and color; and the principles of composition including balance, movement, harmony, variety, dominance, proportion and economy in art and design. Elements and principles are studied with reference to various cultures and time periods. Students will translate theory into practice through studio projects in both two and three-dimensional design. (CSU, UC)

ART 6C COLOR THEORY
Units: 3
Advisory: Completion of ART 6A recommended
Hours: 90 (36 lecture, 54 laboratory)
Basic principles and properties of color. Theoretical study and direct studio projects of such colorists as Josef Albers and Johannes Itten. Study of the physics of light and color; physiology of color vision; psychological and compositional effects of color use; cultural interpretations and traditions; history of color theory and its impact on art and design. (CSU, UC)

ART 7A PAINTING: OIL
Units: 3
Advisory: Completion of ART 4A recommended
Hours: 90 (36 lecture, 54 laboratory)
An introduction to the techniques of oil painting. Painting techniques explored in historical-cultural contexts, as well as student's individual style and interest. Composition, colors, and sources of inspiration studied through class assignments. Students will be encouraged to develop self-expression and creativity. (CSU, UC)

ART 7B PAINTING: OIL
Units: 3
Advisory: Completion of ART 7A or equivalent recommended
Hours: 90 (36 lecture, 54 laboratory)
Continued in-depth study of oil painting techniques and processes, with emphasis on development of personal expression and style. May be taken twice for credit. (CSU, UC)

ART 8A PAINTING: WATERCOLOR
Units: 3
Prerequisite: Completion of ART 4A
Hours: 90 (36 lecture, 54 laboratory)
Introduction to the watercolor techniques as a transparent painting medium. Includes exploration of traditional and nontraditional watercolor methods, composition, color use, development of sources of personal inspiration, and historical traditions studied through lecture, reading and direct class painting assignments. (CSU, UC)

ART 8B PAINTING: WATERCOLOR
Units: 3
Prerequisite: Completion of ART 8A or equivalent
Hours: 90 (36 lecture, 54 laboratory)
Designed for those who have already studied beginning watercolor. Continued in-depth study of techniques and processes of transparent watercolor. Emphasis on practice and improvement in painting techniques and development of personal expression and style. May be taken twice for credit. (CSU, UC)

ART 9A PAINTING: OPAQUE WATER MEDIA
Units: 3
Advisory: Completion of ART 4A recommended
Hours: 90 (36 lecture, 54 laboratory)
Introduction to techniques of acrylic, gouache, and other opaque water painting media, depending on student interest and individual class emphasis. Painting explored in historical context as well as student's individual style and interest. Composition, color use, and sources of inspiration studied through class assignments. (CSU, UC)

ART 9B PAINTING: OPAQUE WATER MEDIA
Units: 3
Prerequisite: Completion of ART 9A or equivalent recommended
Hours: 90 (36 lecture, 54 laboratory)
In-depth study of opaque water painting techniques and processes with emphasis on development of personal expression and style. May be taken twice for credit. (CSU, UC)

ART 9S PAINTING, DRAWING AND PRINTMAKING STUDIO
Units: 0.5-4
Corequisite: Concurrent enrollment in a studio course
Hours: 18 activity per .5 unit
Individual assistance in concurrent course work, lab techniques and advanced critique. May be taken four times for credit. (pass/no pass grading) (CSU)

ART 10 ART APPRECIATION
Units: 3
Hours: 54 lecture
Introductory course providing a basic understanding of art. Course topics include interpretation, developing a visual vocabulary, and an exploration of various media and techniques. (CSU, UC)

ART 11 HISTORY AND AESTHETICS OF PHOTOGRAPHY
Also known as PHOT 10
Units: 3
Hours: 54 lecture
Historical and thematic survey of photography as an art form and communication tool from its invention to the present. Explores various critical perspectives including aesthetic and design principles, influential themes, periods, and photographers. Investigates technical considerations, functions and photography's role in the development of mass culture. (CSU, UC)
ART 12A INTRODUCTION TO SCULPTURE
Units: 3
Hours: 90 (36 lecture, 54 laboratory)
Introduction to basic sculpture technique, materials, and philosophy. Exploratory work in traditional and contemporary concepts which may deal with a variety of materials including wood, plaster, stone, plastics, and metal casting. (CSU, UC)

ART 12B SCULPTURE
Units: 3
Prerequisite: Completion of ART 12A
Hours: 90 (36 lecture, 54 laboratory)
Continued exploration of sculpture philosophy and materials with a greater emphasis toward development of personal direction and individual style. Students will be able to work with a variety of materials to create works of art. May be taken twice for credit. (CSU, UC)

ART 17 CERAMIC SCULPTURE STUDIO
Units: 3
Hours: 90 (36 lecture, 54 laboratory)
Exploration of various ceramic hand-forming methods with clay as a medium; cultural, traditional, and contemporary ceramics techniques will be explored through the development of three-dimensional projects. May be taken two times for credit. (CSU, UC)

ART 18A CERAMICS I
Units: 3
Advisory: Eligibility for ENGL 1A
Hours: 90 (36 lecture, 54 laboratory)
Introduction to the ideas, techniques, history and tradition of the art and craft of ceramics. Ceramics will be explored through hand building, wheel throwing, decorating and glazing of ceramic works. May be taken two times for credit. (CSU, UC)

ART 18B CERAMICS II
Units: 3
Prerequisite: Completion of ART 18A or equivalent
Hours: 90 (36 lecture, 54 laboratory)
Course builds on techniques learned in ART 18A. Emphasis on use of the potter’s wheel. Glaze technology introduced. May be taken two times for credit. (CSU, UC)

ART 18S CERAMICS STUDIO
Units: 0.5-4
Corequisite: Concurrent enrollment in a studio course
Hours: 18 activity per .5 unit
Individual assistance in concurrent course work, lab techniques and advanced critique. May be taken four times for credit. (pass/no pass grading) (CSU)

ART 19 FIGURE SCULPTURE
Units: 3
Hours: 90 (36 lecture, 54 laboratory)
Introduction to figure sculpture using the live model. Emphasis on understanding the human figure as it relates culturally to contemporary and traditional sculptural concepts. Students will be introduced to a variety of construction materials beginning with ceramics. More advanced students may explore other materials such as plaster, bronze, and stone. May be taken two times for credit. (CSU, UC)

ART 19S SCULPTURE STUDIO
Units: 0.5-4
Corequisite: Concurrent enrollment in a studio course
Hours: 18 activity per .5 unit
Individual assistance in concurrent course work, lab techniques and advanced critique. May be taken four times for credit. (pass/no pass grading) (CSU)

ART 20 RAKU CERAMICS
Units: 3
Hours: 90 (36 lecture, 54 laboratory)
Introduction to Raku, a primitive ceramics process. Explores origins and cultural developments and their application to the contemporary world. Includes glaze chemistry, kiln construction, firing techniques, and design theory. May be taken two times for credit. (CSU, UC)

ART 21 PRIMITIVE CERAMICS
Units: 3
Hours: 90 (36 lecture, 54 laboratory)
Student exploration and digging of clays; preparing them for studio use; exploring primitive or ancient firing and decorating techniques, and firing with dung and wood. Field trips required. May be taken three times for credit. (CSU, UC)

ART 22 CREATIVE DESIGN IN METAL
Units: 3
Hours: 90 (36 lecture, 54 laboratory)
Exploration of metal techniques, design principles, and material use for sculpture and functional and nonfunctional art forms. Welding (gas, arc, M.I.G. and T.I.G.), forming, bending, and blacksmithing techniques will be covered for ferrous and nonferrous metals. May be taken two times for credit. (CSU)

ART 23 KILN CONSTRUCTION
Units: 2
Hours: 72 (18 lecture, 36 activity, 18 laboratory)
Kiln construction, historical development of ceramic kilns, firing-theory and kiln building practice. May be taken two times for credit. (not transferable)
ART 24 ADVANCED ART METAL DESIGN
Units: 3
Prerequisite: Completion of one semester of ART 22
Hours: 90 (36 lecture, 54 laboratory)
Advanced exploration of metal techniques, design principles, and material use for sculpture and functional and nonfunctional art forms. Emphasis on development of a personal creative vision, furthering technical skills, and complex problem solving. Includes aluminum anodizing, ferrous and nonferrous metal machining, advanced welding techniques, advanced forming methods, and public outdoor art installation. May be taken two times for credit. (CSU, UC)

ART 28 INDEPENDENT STUDY
Units: 1-3
Designed for students interested in furthering their knowledge at the independent study level in an area where no specific curriculum offering is currently available. Independent study problems might include, but are not limited to, research papers, special construction projects, and research projects. May be taken four times for credit. See Independent Study page in catalog. (CSU, UC—with unit limitation)

ART 31 MURAL ART
Formerly known as ART 301
Units: 3
Advisory: Completion of ART 4A
Hours: 90 (36 lecture, 54 laboratory)
Designing, drawing and painting murals. Concentration on mural design and painting processes: research and development of themes, preparatory sketches and drawings of designs, development and transfer of the cartoons, and painting an actual mural. May be taken four times for credit. (CSU, UC)

ART 32 INTRODUCTION TO FIBER ARTS
Formerly known as ART 302
Units: 3
Hours: 90 (36 lecture, 54 laboratory)
Develop familiarization with materials and basic understanding of several off-loom construction techniques. Emphasis on techniques requiring little specialized equipment with materials that are found readily in the environment. Overview of historical background and contemporary Fiber Art. May be taken three times for credit. (CSU, UC)

ART 33 ART METAL CASTING
Units: 3
Hours: 90 (36 lecture, 54 laboratory)
Exploration of cast metal for sculpture and functional and nonfunctional art forms. Emphasis on history, design, techniques, vocabulary and safety. Includes lost wax, rigid investments, sand casting and other traditional and nontraditional art foundry methods, for both bronze and aluminum. May be taken three times for credit. (CSU)

ART 40A PRINTMAKING
Units: 3
Hours: 90 (36 lecture, 54 laboratory)
Introduction to printmaking processes. Direct practice in wood cut, lino cut, colograph, and monotype. (CSU, UC)

ART 40B PRINTMAKING
Units: 3
Prerequisite: Completion of ART 40A
Hours: 90 (36 lecture, 54 laboratory)
Continued study of printmaking processes. Direct practice in relief, intaglio, colograph and monotype. May be taken three times for credit. (CSU, UC)

ART 41 JEWELRY DESIGN
Units: 3
Hours: 90 (36 lecture, 54 laboratory)
Introduction to the concepts, techniques, and tools used in design and fabrication of jewelry. The implication and effects of history and culture of jewelry and body ornamentation are explored. Soldering, “lost wax” casting, forming, and stone setting in non-ferrous metals (copper, brass, silver) will be covered. May be taken three times for credit. (CSU)

ART 50 ART GALLERY OPERATIONS
Units: 3
Hours: 90 (36 lecture, 54 laboratory)
The business of art for artists and students pursuing careers in the visual arts. Includes all aspects of gallery management including participating in the creation of exhibits, installing exhibits, preparing marketing and promotional materials, establishing business practices, and managing collections. May be taken twice for credit. (CSU)

ART 52 PORTRAIT DRAWING AND PAINTING
Units: 3
Advisory: Completion of ART 4A recommended
Hours: 90 (36 lecture, 54 laboratory)
Introduction to drawing and painting the human portrait from live models. Basic proportions, facial features, basic rendering and painting techniques, and portrayal of individual portrait characteristics with a variety of drawing and painting media. Historical study of the art form of portraiture integrated into studio projects. May be taken three times for credit. (CSU, UC)

ART 54 DESCRIPTIVE DRAWING
Units: 3
Advisory: Completion of ART 4A recommended
Hours: 90 (36 lecture, 54 laboratory)
Course in objective drawing focusing on the development of skills in the rendering of objects in a dimensional space. Concentration on the depiction of form as represented by light, shadow, and texture. Includes the study and use of linear and atmospheric perspectives and a variety of still life, landscape, and figurative sources. May be taken twice for credit. (CSU, UC)
ART 55 ILLUSTRATION
Also known as AAD 55
Units: 3
Prerequisite: Completion of ART 4A
Hours: 72 (36 lecture, 36 activity)
Professional practices of illustration, including concept development, communication of ideas, identification and use of appropriate styles and techniques, time management, and presentation of finished work. May be taken twice for credit. (CSU)

ART 71 INTRODUCTION TO DIGITAL PAINTING
Also known as AAD 71
Units: 3
Prerequisite: Completion of ART 4A
Hours: 108 (27 lecture, 81 laboratory)
Introduction to drawing and painting on the computer. Exploration of tools, color palettes, brush options, paper textures, effects and manipulation of layers and masks in a digital painting program. Includes integration of off-computer drawing and painting processes and techniques with digital image development. Projects are created in preparation for printing on artist’s quality papers, or for use in other digital applications and the World Wide Web. May be taken four times for credit. (CSU)

ART 80 ISSUES IN CONTEMPORARY ART
Units: 3
Advisory: Completion of ART 10 recommended
Hours: 54 lecture
Current trends in art including philosophy and critical theory, use of modern technologies, government involvement in the arts, and gender issues. Also includes a critical investigation of social structures that inform art production, display, and patronage. (CSU, UC)

ART 300 SELECTED TOPICS IN ART
Units: 0.5-4
Courses of study will cover topics relevant to the discipline. Topics will vary. Course content and unit credit to be determined by the division. May be offered as seminar, lecture, or lecture/laboratory classes. Students may repeat “300” courses within a discipline only when a topic is different from previously completed course. See Selected Topics page in catalog. (not transferable)

ART 303 COLLAGE AND ASSEMBLAGE
Units: 3
Hours: 90 (36 lecture, 54 laboratory)
Explores the variation and formation of an altered surface with found and constructed materials. The application of historical and contemporary techniques and concepts provides the foundation for creating two and three dimensional works of art. Development of a personal visual language is essential to this course. (CSU)

ART 400 SELECTED TOPICS IN ART
Units: 0.5-4
Courses of study will cover topics relevant to the discipline. Topics will vary. Course content and unit credit to be determined by the division. May be offered as seminar, lecture, or lecture/laboratory classes. Students may repeat “400” courses within a discipline only when a topic is different from previously completed course. See Selected Topics page in catalog. (not transferable)

ART 814 ART APPRECIATION: IDENTIFICATION OF VARIOUS PERIODS OF ART
Units: 0
Hours: 8 to 18 lecture as scheduled
An overview of the development of various periods of art movements. Includes impact of culture, religion, and political atmosphere in each period. Identification of major works of art and artists in each period. Periods covered will include but not be limited to: European Baroque, Greco Roman, Classical Humanities, French Impressionism, Post Impressionism, Influences of Nonwestern art including Asia, Africa, and early North America. Each class section will focus on one period or genre. May be repeated. (noncredit)

Astronomy

SCIENCES & MATHEMATICS
DEAN: Heather Roberts
ASSOCIATE DEAN: Michael Kane
DIVISION OFFICE: V 211
FACULTY: D. Dunn, D. Kenyon, B. Rice
liaison counselors: T. Maddux, P. Neal

The Astronomy curriculum introduces students to basic topics such as the characteristics of the Solar System, the nature of the sun and other stars, the galaxy we exist in, its extent and evolution.

Several different level courses are presented in a multi-mode instructional fashion—for example, multi-media, planetarium presentations, and laboratory and field experiences. Special emphasis is placed on the understanding of observable celestial phenomena and events familiar to the individual's natural environment. The program is not designed to prepare students for Astronomy majors and does not presume extensive backgrounds in science and mathematics.
Astronomy Courses

**ASTR 2 INTRODUCTION TO PLANETARY SYSTEMS**
Units: 3
Advisory: Completion of ENGL 50 or equivalent
Hours: 54 lecture
General principles and fundamental facts of astronomy associated with planetary systems. Visual concepts emphasized through multimedia presentations and planetarium demonstrations. Peer-based exercises and computer interaction emphasized. Includes historical developments of planetary astronomy, basic principles of planetary system observations and analysis, and general concepts for interpreting the night sky with charts and almanacs. Particular detail given to the formation, evolution, and current condition of the Sun and Solar System, as well as current knowledge of other planetary systems. Possibilities for life in planetary environments discussed. (CSU, UC)

**ASTR 5 INTRODUCTION TO STARS, GALAXIES, AND THE UNIVERSE**
Units: 3
Advisory: Completion of ENGL 50 or equivalent
Hours: 54 lecture
General principles and fundamental facts of astronomy emphasizing stars, galaxies, and the universe. Visual concepts emphasized through multimedia presentations and planetarium demonstrations. Peer-based exercises and computer interaction emphasized. Includes historical developments of astronomy, basic principles of astronomical observations and analysis, and general concepts for interpreting the night sky with charts and almanacs. Particular detail given to structure and evolution of stars, general characteristics of deep sky objects (star clusters, nebulae, and galaxies), large-scale structure of the Universe, and cosmology. Possibilities for life within the Milky Way Galaxy and beyond discussed. (CSU, UC)

**ASTR 10 ELEMENTARY ASTRONOMY**
Units: 3
Advisory: Completion of ENGL 50 or equivalent strongly recommended
Hours: 54 lecture
General principles and the fundamental facts of astronomy. Visual concepts emphasized through multimedia presentations and planetarium. Hands-on exercises and computer interaction emphasizing astronomical principles. Includes historical developments of astronomy, the formation, evolution and current condition of sun and solar system, stellar structure and evolution, deep sky objects (star clusters, nebulae, galaxies), structure of universe, and cosmology. Not open to students who have successfully completed ASTR 2 and 5. (CSU, UC)

**ASTR 11 OBSERVATIONAL ASTRONOMY**
Units: 1
Prerequisite: Completion of, or concurrent enrollment in, ASTR 2, 5, 10, PHYS 10, ESCI 10, or equivalent
Advisory: Completion of ENGL 50, or eligibility for ENGL 11, or equivalent strongly recommended
Hours: 54 laboratory
Basic interpretation of astronomical observations through telescopes, binoculars, computers, cameras, and other simple measuring equipment. Use of planetarium to facilitate recognition of constellations, stars, planetary motions, and study coordinate systems and celestial motions. Development of observational skills to study outdoor sky and outcomes of indoor laboratory experiments. Emphasis on quantitative and qualitative analysis of variety of astronomical data. (CSU, UC)

**ASTR 14 ASTROPHOTOGRAPHY AND IMAGING**
Units: 1
Prerequisite: Completion of, or concurrent enrollment in, ASTR 2, ASTR 5, ASTR 10, or equivalent
Advisory: Completion of ENGL 50 or equivalent strongly recommended
Hours: 54 laboratory
Basic principles and practices of astrophotography and image processing. Astronomical observations and data collection associated with the use of telescopes, binoculars, computers, cameras, and other related equipment. Development of observational techniques and data analysis procedures for the study of the outdoor sky with related indoor experiments and studies. Particular emphasis placed on quantitative and qualitative analysis of a variety of astronomical data collected with 35mm and CCD digital cameras. (CSU, UC)

**ASTR 25 FRONTIERS IN ASTRONOMY**
Units: 3
Prerequisite: Completion of MATH D, and either ASTR 10, PHYS 4A, or ESCI 10, or equivalent
Hours: 54 lecture
Topics at the forefront of astronomical research including an in-depth look beyond introductory astronomy. Emphasis on theoretical principles and supporting observational data. Includes relativity and warped spacetime, black holes, dark matter, quasars, gravitational waves, grand unified and super symmetry theories, and other recent developments in cosmology. (CSU, UC)

**ASTR 28 INDEPENDENT STUDY**
Units: 1-3
Designed for students interested in furthering their knowledge at an independent study level in an area where no specific curriculum offering is currently available. Independent study might include, but is not limited to, research papers, special subject area projects, and research projects. May be taken four times for credit. See Independent Study page in catalog. (CSU, UC— with unit limitation)
**ASTR 300 SELECTED TOPICS IN ASTRONOMY**

Units: 0.5-4

Courses of study will cover topics relevant to the discipline. Topics will vary. Course content and unit credit to be determined by the division. May be offered as seminar, lecture, or lecture/laboratory classes. Students may repeat “300” courses within a discipline only when a topic is different from previously completed course. See Selected Topics page in catalog. (CSU, UC—with unit limitation)

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**Automotive Technology**

**BUSINESS, APPLIED ACADEMICS, & PHYSICAL EDUCATION**

DEAN: Luis Sanchez

ASSOCIATE DEAN: Darlene Jackson

DIVISION OFFICE: B 3

FACULTY: S. Smith, A. Wong

LIAISON COUNSELORS: E. Farrelly, D. Quadros

The Automotive Technology Program is certified by the National Automotive Educational Technician Foundation (NATEF). The program is supported by the Central Valley New Car Dealership Association (CVNCDA), is a member of Professional Automotive Training Centers (PATC), and has a Memorandum of Understanding (MOU) with Nissan of North America. All full-time automotive instructors are Master ASE Certified or above. The Automotive Technology Program is Automotive Service Excellence (ASE) certified in the following areas: Engine Repair, Automatic Transmission/Transaxles, Manual Drivetrains & Axles, Suspension/Steering, Brakes, Electric/Electronic Systems, Heating/Air Conditioning, and Engine Performance.

The Automotive Technology Curriculum is designed (1) to prepare students to become competent technicians and gain employment in the automotive industry at the completion of the program and (2) to upgrade skills of those already in the field.

**AUTOMOTIVE ANALYSIS**

**A.A. OR A.S. DEGREE**

Successful completion of the curriculum in Automotive Analysis qualifies students for entry-level positions in the various areas of automotive technology, and provides them with an overview for selecting specific areas for further training and education. Students must fulfill program requirements and all associate degree requirements for the A.A./A.S. degree; see pages 42-43.

**REQUIRED COURSES**

**UNITS**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>AUTO 1 Automotive Data Acquisition</td>
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<tr>
<td>AUTO 61 Vehicle &amp; Engine Analyzing</td>
<td>4</td>
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<tr>
<td>AUTO 64 Hydraulic &amp; Brake Systems</td>
<td>4</td>
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<tr>
<td>AUTO 68A Basic Automatic Transmissions</td>
<td>4</td>
</tr>
<tr>
<td>AUTO 71A Automotive Electrical Systems</td>
<td>4</td>
</tr>
<tr>
<td>AUTO 79 Suspension and Wheel Alignment</td>
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<td>AUTO 150 Introduction to Automotive Technology Profession</td>
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**PLUS 4 ADDITIONAL UNITS FROM:**

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<th>Course</th>
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<tr>
<td>AUTO 66A Engine Reconditioning</td>
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<tr>
<td>AUTO 69 Automotive Air Conditioning and Heating</td>
<td>4</td>
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<tr>
<td>AUTO 75 Automotive Electronics</td>
<td>4</td>
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<tr>
<td>AUTO 80 Automotive Powertrains Manual Transmissions</td>
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</tbody>
</table>

**TOTAL UNITS REQUIRED: 25**

Recommended Electives: AUTO 95, BUS 20, BUS 100, for students with particular interest in these areas.

**CERTIFICATES**

The Automotive Technology certificate program is designed to qualify students for specialized positions in automotive repair and related industries and to upgrade the skills of technicians already in the field. The program also includes the Master Automotive Technician Certificate, which certifies competence in all areas of conventional automotive repair and maintenance. Certificate patterns consist of course concentration in specific areas, plus study in relevant areas such as Introduction to Welding Technology (WELD 20). General education classes are not required. Specialized certificates require 18.5 to 36 units of course work, while the Master Automotive Technician Certificate requires 59.5 units. A certificate is designed to provide career technical skills; it is not equivalent to an A.A. or A.S. degree.

**LICENSES:**

Automotive Emission Control
Automotive Lighting Systems
Automotive Brake Systems

The Automotive Technology program offers courses designed for mechanics who want to apply for a new license, or renew a license, in the areas of emission control, lighting, and brake systems. See AUTO 31 and 64.
### AIR CONDITIONING AND BODY ELECTRICAL CERTIFICATE

**REQUIRED COURSES**

<table>
<thead>
<tr>
<th>Course</th>
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<tr>
<td>AUTO 1 Automotive Data Acquisition</td>
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<tr>
<td>AUTO 60 Skill &amp; Speed Development</td>
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<tr>
<td>AUTO 61 Vehicle &amp; Engine Analyzing</td>
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<tr>
<td>AUTO 69 Automotive Air Conditioning &amp; Heating</td>
<td>4</td>
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<tr>
<td>AUTO 71A Automotive Electrical Systems</td>
<td>4</td>
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<tr>
<td>AUTO 75 Automotive Electronics</td>
<td>4</td>
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<td>AUTO 150 Introduction to Automotive Technology Profession</td>
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**PLUS 2 ADDITIONAL UNITS FROM:**

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<tbody>
<tr>
<td>AUTO 60 Skill and Speed Development</td>
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<tr>
<td>AUTO 95 Internship in Automotive Technology</td>
<td>.5-2</td>
</tr>
<tr>
<td>AUTO 161 Skill and Speed Development in Automotive Electrical</td>
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**TOTAL UNITS REQUIRED:** 21

### ALIGNMENT AND BRAKE CERTIFICATE

**REQUIRED COURSES**

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<td>AUTO 71A Automotive Electrical Systems</td>
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<tr>
<td>AUTO 79 Suspension and Wheel Alignment</td>
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<tr>
<td>AUTO 150 Introduction to Automotive Technology Profession</td>
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<td>WELD 20 Introduction to Welding Technology</td>
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**PLUS 2 ADDITIONAL UNITS FROM:**

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<tr>
<td>AUTO 95 Internship in Automotive Technology</td>
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</tr>
<tr>
<td>AUTO 160 Skill and Speed Development in Wheel Alignment/Braking/Hydraulics</td>
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</table>

**TOTAL UNITS REQUIRED:** 20

### AUTOMATIC TRANSMISSION CERTIFICATE

**REQUIRED COURSES**

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<tr>
<td>AUTO 71A Automotive Electrical Systems</td>
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<tr>
<td>AUTO 80 Automotive Powertrains Manual Transmissions</td>
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<tr>
<td>AUTO 150 Introduction to Automotive Technology Profession</td>
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<td>WELD 20 Introduction to Welding Technology</td>
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**PLUS 2 ADDITIONAL UNITS FROM:**

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<tr>
<td>AUTO 95 Internship in Automotive Technology</td>
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</table>

**TOTAL UNITS REQUIRED:** 20

### AUTOMOTIVE ENGINE MACHINING CERTIFICATE

**REQUIRED COURSES**

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<td>AUTO 60 Skill &amp; Speed Development</td>
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<tr>
<td>AUTO 66A Engine Reconditioning</td>
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<tr>
<td>AUTO 66B Engine Reconditioning</td>
<td>4</td>
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<tr>
<td>AUTO 150 Introduction to Automotive Technology Profession</td>
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**PLUS 4.5 ADDITIONAL UNITS FROM:**

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**TOTAL UNITS REQUIRED:** 18.5

### EMISSION AND DRIVEABILITY TUNE-UP CERTIFICATE

**REQUIRED COURSES**

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<th>Units</th>
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<tr>
<td>AUTO 1 Automotive Data Acquisition</td>
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<tr>
<td>AUTO 31 Automotive Emission Control Systems OR Possession of California Smog Certification License</td>
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<tr>
<td>AUTO 34 Advanced Emissions Diagnostics &amp; Service OR Possession of California Smog Certification License</td>
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<tr>
<td>AUTO 60 Skill &amp; Speed Development OR AUTO 95 Internship in Automotive Technology</td>
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<tr>
<td>AUTO 61 Vehicle &amp; Engine Analyzing</td>
<td>4</td>
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<tr>
<td>AUTO 62A Engine Fuel System Principles and Controls</td>
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<tr>
<td>AUTO 62B Computer Controlled Carburetion &amp; Fuel Injection</td>
<td>4</td>
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<tr>
<td>AUTO 63 Advanced Engine Performance Diagnosis</td>
<td>4</td>
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<tr>
<td>AUTO 69 Automotive Air Conditioning &amp; Heating</td>
<td>4</td>
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<td>AUTO 150 Introduction to Automotive Technology Profession</td>
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**TOTAL UNITS REQUIRED:** 30-36
MASTER AUTOMOTIVE TECHNICIAN
CERTIFICATE

REQUIRED COURSES          UNITS
AUTO 1 Automotive Data Acquisition.......................... .5
AUTO 31 Automotive Emission Control Systems.............. 4.5
AUTO 60 Skill & Speed Development OR
AUTO 160 Skill & Speed Development in Wheel
   Alignment/Braking/Hydraulics OR
AUTO 162 Skill & Speed Development in Power Train........ 3
AUTO 61 Vehicle & Engine Analyzing ......................... 4
AUTO 62A Engine Fuel System Principles and Controls........ 4
AUTO 63 Advanced Engine Performance Diagnosis............ 4
AUTO 64 Hydraulic & Brake Systems .......................... 4
AUTO 66A Engine Reconditioning ............................... 4
AUTO 68A Basic Automatic Transmissions.................... 4
AUTO 69 Automotive Air Conditioning & Heating ............. 4
AUTO 71A Automotive Electrical Systems ..................... 4
AUTO 79 Suspension and Wheel Alignment ..................... 4
AUTO 80 Automotive Powertrains Manual Transmissions ....... 4
AUTO 150 Introduction to Automotive Technology Profession . .5
WELD 20 Introduction to Welding Technology ............... 3

PLUS 8 ADDITIONAL UNITS FROM:
AUTO 62B Computer Controlled Carburetion & Fuel Injection 4
AUTO 66B Engine Reconditioning .............................. 4
AUTO 75 Automotive Electronics ................................ 4

TOTAL UNITS REQUIRED: 59.5

POWERTRAIN
CERTIFICATE

REQUIRED COURSES          UNITS
AUTO 1 Automotive Data Acquisition.......................... .5
AUTO 60 Skill & Speed Development ............................ 2
AUTO 68A Basic Automatic Transmissions.................... 4
AUTO 71A Automotive Electrical Systems ..................... 4
AUTO 80 Automotive Powertrains Manual Transmissions ....... 4
AUTO 150 Introduction to Automotive Technology Profession . .5
WELD 20 Introduction to Welding Technology ............... 3

PLUS 2 ADDITIONAL UNITS FROM:
AUTO 60 Skill and Speed Development .......................... 1-2
AUTO 95 Internship in Automotive Technology .............. 5-2
AUTO 162 Skill and Speed Development in Power Train ...... 1-2

TOTAL UNITS REQUIRED: 20

Recommended Electives:
AUTO 66A and 79 for students with particular interest in these areas.

Automotive Technology Courses

AUTO 1 AUTOMOTIVE DATA ACQUISITION
Units: 0.5
Hours: 11 (7 lecture, 4 activity)
Automotive data retrieval and usage to include locating and using on-line technical manuals, ALLDATA-based technical manuals, and text-based technical manuals. Computer-based repair order generation, usage, and technical writing skills as well as computerized automotive shop management systems, including PATC and Nissan Information Systems. Strongly recommended for all Automotive Program students, preferably in their first year of study. (not transferable)

AUTO 28 INDEPENDENT STUDY
Units: 1-3
Designed for students interested in furthering their knowledge at an independent study level where no specific curriculum offering is currently available. Independent study might include, but is not limited to, research papers, special subject area projects, and research projects. May be taken four times for credit. See Independent Study page in catalog. (CSU)

AUTO 31 AUTOMOTIVE EMISSION CONTROL SYSTEMS
Units: 4.5
Prerequisite: Completion of AUTO 71A or equivalent experience
Hours: 81 lecture
Training for both BAR Basic Clean Air Car course and level three citation training requirements for smog technicians. Emission control systems and their effects on internal combustion engines. Proper use and maintenance of state certified vehicle emission testing equipment. Successful completion of BAR Basic Clean Air Car course examination is required for the BAR EA and EB smog license examination. May be taken four times for credit. (not transferable)

AUTO 34 ADVANCED EMISSIONS DIAGNOSTICS AND SERVICE
Units: 1.5
Prerequisite: Successful completion of AUTO 31 and passing grade on the State required Basic Clean Air Car Course examination
Hours: 29 lecture
BAR approved Advanced Clean Air Car Course for EA smog licensing. Includes baseline techniques for loaded mode testing, dynamometers, BAR 97 Transition Dyno Safety, advanced wave form patterns, diagnostic strategies, and information specific to California emission standards. Successful completion of BAR Advanced Clean Air Car Course examination is required for the BAR EA smog license examination. Student must also be certified in ASE A6-A8 and L.1 or have taken BAR approved alternative courses to be eligible for BAR smog technician examination. May be taken four times for credit. (not transferable)
AUTO 55 LANDSCAPE AND GARDEN MACHINE MAINTENANCE
Also known as AGRI 41
Units: 2
Hours: 72 (18 lecture, 54 laboratory)
Minor repair and replacement of engine parts and accessories on two-stroke cycle engines and machines, including chain saws and machinery normally used in grounds maintenance. Includes fuel and ignition systems, cooling systems, belt and chain drives, transmissions, blade sharpening, and preventive maintenance procedures and adjustments. May be taken three times for credit. (not transferable)

AUTO 56 FOUR-CYCLE ENGINE MAINTENANCE AND REPAIR
Also known as AGRI 42
Units: 2
Hours: 72 (18 lecture, 54 laboratory)
Minor and major maintenance and repair, tune-up and over-haul of four-cycle gasoline engines. Includes engines used for mowers, tillers, shredders, mulchers, pumps, sprayers, wood splitters, and garden tractors. May be taken twice for credit. (not transferable)

AUTO 59 INTRODUCTION TO AUTOMOTIVE SERVICE
Units: 4
Hours: 108 (54 lecture, 54 laboratory)
Designed for students with little to no formal background or training in the automotive field, covering: engine operation, lubrication, cooling, ignition, electrical, suspension, A/C, fuel systems, brakes, tires and drive train. Other topics will also be covered, such as: shop safety, tool usage, and hazardous waste management. Emphasis on hands-on activities. (CSU)

AUTO 60 SKILL AND SPEED DEVELOPMENT
Units: 1-2
Prerequisite: Completion of AUTO 1 and one of the following courses: AUTO 64, 66A, 68A, or 71A with grades of “C” or better
Hours: 54 laboratory per unit
Designed to further develop skill, speed, and experience capabilities of automotive majors to meet industry diagnostic and repair performance expectations. Individual projects selected by students with the agreement and guidance of instructor. Required of all automotive majors and automotive certificate students in area of specialization. Materials fee. May be taken four times for credit. (not transferable)

AUTO 61 VEHICLE AND ENGINE ANALYZING
Units: 4
Hours: 108 (54 lecture, 54 laboratory)
Study of automotive engine theories and principles. Emphasis on construction, repair, and adjustment methods of engine systems and components on engine performance diagnostic analyzing using the latest equipment and methods. Preparation for ASE Certification exam. (CSU)

AUTO 62A ENGINE FUEL SYSTEM PRINCIPLES AND CONTROLS
Units: 4
Hours: 108 (54 lecture, 54 laboratory)
Basic principles of engine air/fuel management to meet emission and fuel economy needs. Emphasis on basic circuitry and adjustment procedures. A study of the relationship of today’s gasoline, engine performance and fuel controls using carburetion and fuel injection. Preparation for ASE Certification exam. (CSU)

AUTO 62B COMPUTER CONTROLLED CARBURETION AND FUEL INJECTION
Units: 4
Prerequisite: Completion of AUTO 61, 62A, and 71A, or equivalent experience
Hours: 108 (54 lecture, 54 laboratory)
Applications, theory of operation, and service to electronic computer controlled carburetion, fuel injection, and emission control systems. Diagnosis and repair driveability and engine performance faults involving computer command control, electronic fuel injection and port fuel injection systems. Preparation for ASE Certification exam. (CSU)

AUTO 63 ADVANCED ENGINE PERFORMANCE DIAGNOSIS
Units: 4
Prerequisite: Completion of AUTO 61, 62A, and 71A, or equivalent experience
Hours: 108 (54 lecture, 54 laboratory)
Study of theory application, diagnosis, and service of kettering and electronic ignitions, fuel systems, emission control systems, charging and cranking systems. Emphasis on advanced engine performance diagnosis on OBD I and OBD II vehicles using scanners, oscilloscopes, infrared analyzers, engine electrical analyzers, pressure and vacuum gauges, multimeters, and digital storage scopes. Preparation for ASE Certification exam. (CSU)

AUTO 64 HYDRAULIC AND BRAKE SYSTEMS
Units: 4
Hours: 108 (54 lecture, 54 laboratory)
Application of principles, inspection, and evaluation of industry practice in the diagnosis, service, and repair of drum brakes, disc brakes, power-assist devices, and anti-lock brake systems. Complete machining of drums and rotors. Prepares students for California State Brake Adjuster License and ASE Brake Certification exam. (CSU)
**AUTO 66A ENGINE RECONDITIONING**
Units: 4  
Hours: 108 (54 lecture, 54 laboratory)  
Introduction to the machines and measuring processes used in modern automotive machine shops including; cylinder head re-surfacing, valve guide repair, valve refacing, valve seat replacement and finishing, reboring cylinder blocks using portable boring bars, cylinder honing with hand hone, piston pin press work, precision measurement of parts with micrometers and dial bore gauges. Preparation for ASE Certification exam. (CSU)

**AUTO 66B ENGINE RECONDITIONING**
Units: 4  
Prerequisite: Completion of AUTO 66A  
Hours: 108 (54 lecture, 54 laboratory)  
Advanced engine machinist course. Students are required to completely rebuild one liquid-cooled engine. Engine and parts to be supplied by the student; cost varies from $300 to $1,000. Preparation for ASE Certification exam. (CSU)

**AUTO 68A BASIC AUTOMATIC TRANSMISSIONS**
Units: 4  
Hours: 108 (54 lecture, 54 laboratory)  
General theories of operation of automatic transmissions. Including, but not limited to: hydraulic torque multipliers, planetary gears and shafts, hydraulic systems and apply devices. Emphasis on power flow, diagnosis, adjustment, service, repair, and rebuilding of transmissions used on domestic and foreign automobiles. Rebuilding and test running on transmission dynamometer. Preparation for ASE Certification exam. (CSU)

**AUTO 68B AUTOMATIC TRANSMISSIONS AND TRANSAXLES**
Units: 4  
(Inactive 2-14-05)

**AUTO 69 AUTOMOTIVE AIR CONDITIONING AND HEATING**
Units: 4  
Hours: 108 (54 lecture, 54 laboratory)  
Principles in automotive air conditioning and heating systems. Emphasis on theory, controls, diagnosis, service, repair, and installation. A study in heat transfer, with methods of troubleshooting and repair of live vehicle air conditioning and heating systems. Course includes use of State and Federal approved recovery and recycling equipment. Preparation for ASE Certification exam. (CSU)

**AUTO 71A AUTOMOTIVE ELECTRICAL SYSTEMS**
Units: 4  
Hours: 108 (54 lecture, 54 laboratory)  
Study of the theory, testing, diagnosis, and service of common body and engine electrical circuits, including batteries, switching, fusing, relays, thermal timers, DC motors, alternator principles series, parallel circuits with live system failure diagnosis using voltmeters, ampmeters, and ohmmeters. Preparation for ASE Certification exam. (CSU)

**AUTO 75 AUTOMOTIVE ELECTRONICS**
Units: 4  
Prerequisite: Completion of AUTO 71A or equivalent  
Hours: 108 (54 lecture, 54 laboratory)  
Advanced study in automotive electronics and control systems; resistor, capacitor, inductor, diode, and transistor circuitry with application to solid state sensors, controllers, and actuators. In depth study on electrical diagnostics using digital storage oscilloscope. Preparation for ASE Certification exam. (CSU)

**AUTO 79 SUSPENSION AND WHEEL ALIGNMENT**
Formerly known as AUTO 77 & 78  
Units: 4  
Hours: 108 (54 lecture, 54 laboratory)  
Principles of wheel alignment, steering, suspension components, methods of vehicle measurements for rear-wheel drive vehicles, front-wheel drive vehicles, and light trucks including four-wheel drive alignment. Identification and correction of damaged and worn steering components and wheel system. Emphasis on measurement result analysis, including conventional and strut-type suspension systems. Preparation for ASE Certification. (CSU)

**AUTO 80 AUTOMOTIVE POWERTRAINSMANUAL TRANSMISSIONS**
Units: 4  
Hours: 108 (54 lecture, 54 laboratory)  
A study of the power train and methods of delivering power from the engine to the drive wheels. Includes details of power flow in a manual transmission/transaxle, gear ratios, driveline components and construction, differential components and construction, clutch systems, and drive axles. Troubleshooting techniques and diagnostic procedures will be applied. Preparation for ASE Certification exam. (CSU)

**AUTO 81 COMPUTERIZED ENGINE ANALYZER**
Units: 1.5  
Prerequisite: Completion of AUTO 62B, 63, and 75, or equivalent experience  
Hours: 36 (24 lecture, 12 laboratory)  
Advanced engine performance diagnosis of On Board Diagnostic 1 (OBD1) equipped vehicles. Theory of operation and hands-on practices in using a computerized engine analyzer, digital storage oscilloscopes, five-gas emission analyzer, and hand-held diagnostic scan tools. Prepares for ASE Certification exam. (CSU)
AUTO 95 INTERNSHIP IN AUTOMOTIVE TECHNOLOGY
Units: 0.5-4
Designed for advanced students to work in an area related to their educational or occupational goal. Provides new on-the-job technical training under the direction of a worksite supervisor, allowing students to expand knowledge and skills in the chosen field. Mandatory orientation session and faculty approval to determine eligibility. Students may earn up to a total of 16 units in internship courses (any course numbered 95 and PDEV 94). (CSU—with unit limitation)

AUTO 150 INTRODUCTION TO AUTOMOTIVE TECHNOLOGY PROFESSION
Units: 0.5
Hours: 9 lecture
Career exploration in the automotive technology industry. Includes orientation to the automotive technology program at Sierra College, employment opportunities, career pathways, educational planning for Associate degree, certificate and transfer. Research on labor market and occupational information. Develop an educational plan. (pass/no pass grading) (not transferable)

AUTO 160 SKILL AND SPEED DEVELOPMENT IN WHEEL ALIGNMENT/BRAKING/HYDRAULICS
Units: 1-3
Hours: 54 laboratory per unit
Designed to further develop a student’s skill, speed, and experience in diagnosis and service of automotive suspension, alignment and brake systems. (not transferable)

AUTO 161 SKILL AND SPEED DEVELOPMENT IN AUTOMOTIVE ELECTRICAL
Units: 1-3
Hours: 54 laboratory per unit
Designed to further develop a student’s skill, speed, and experience in diagnosis and service of automotive electrical and electronics. (not transferable)

AUTO 162 SKILL AND SPEED DEVELOPMENT IN POWER TRAIN
Units: 1-3
Hours: 54 laboratory per unit
Designed to further develop a student’s skill, speed, and experience in diagnosis and service of the vehicle power train system. (not transferable)

AUTO 300 SELECTED TOPICS IN AUTOMOTIVE TECHNOLOGY
Units: 0.5-4
Courses of study will cover topics relevant to the discipline. Topics will vary. Course content and unit credit to be determined by the division. May be offered as seminar, lecture, or lecture/laboratory classes. Students may repeat “300” courses within a discipline only when a topic is different from previously completed course. See Selected Topics page in catalog. (CSU)

AUTO 400 SELECTED TOPICS IN AUTOMOTIVE TECHNOLOGY
Units: 0.5-4
Courses of study will cover topics relevant to the discipline. Topics will vary. Course content and unit credit to be determined by the division. May be offered as seminar, lecture, or lecture/laboratory classes. Students may repeat “400” courses within a discipline only when a topic is different from previously completed course. See Selected Topics page in catalog. (not transferable)

Biological Sciences

SCIENCES & MATHEMATICS
DEAN: Heather Roberts
ASSOCIATE DEAN: Michael Kane
DIVISION OFFICE: V 211
LIAISON COUNSELORS: T. Maddux, M. Moon, S. Muraki

The Biological Sciences Department offers course work in Anatomy, Biology, Botany, Microbiology, Physiology, and Zoology.

TRANSFER AND MAJOR REQUIREMENTS in Biological Sciences are available in the Counseling Center. Transfer students planning to major in Biology, Botany, Zoology, Ecology, Microbiology, Anatomy, Physiology, Forestry, Wildlife Management, Natural Resources, Medicine, Dentistry, Veterinary Medicine, Optometry, and Pharmacy should consult with a counselor for specific transfer requirements.

BIOLOGICAL SCIENCES
A.S. DEGREE
The Biological Science curriculum provides students with the opportunity to meet the requirements for transferring to four-year colleges in the areas of Agriculture, Animal Science, Biochemistry, Bioengineering, Biological Sciences, Biotechnology, Chiropractic, Clinical Lab Technician, Curator, Dental Hygiene, Dentistry, Environmental Studies, Forestry, Nutrition/Dietetics, Occupational Therapy, Plant Science, Pharmacy, Physical Therapy, Premedical, Nursing, Range Management, Veterinary Medicine, Wildlife/Fisheries Biologist and Zoologist, or entry level positions in related fields. Students must fulfill program requirements and all associate degree requirements for the A.S. degree; see pages 42-43.
**REQUIRED COURSES**

**12 UNITS FROM THE FOLLOWING:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 1 General Biology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 2 Botany</td>
<td>4.5</td>
</tr>
<tr>
<td>BIOL 3 General Zoology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 4 Microbiology OR</td>
<td></td>
</tr>
<tr>
<td>BIOL 8A AND 8B Microbiology</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 5 Human Anatomy OR</td>
<td></td>
</tr>
<tr>
<td>BIOL 7A AND 7B Principles of Human Anatomy</td>
<td>4-5</td>
</tr>
<tr>
<td>BIOL 6 Human Physiology</td>
<td>5</td>
</tr>
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</table>

**PLUS AT LEAST 8 UNITS FROM OTHER COURSES LISTED ABOVE OR FROM:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>CHEM 1A General Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>CHEM 1B General Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>CHEM 2A Introduction to Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>CHEM 2B Introduction to Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>CHEM 3A General Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 3B General Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>ESKI 1 Physical Geology</td>
<td>3</td>
</tr>
<tr>
<td>MATH 6 Trigonometry</td>
<td>4</td>
</tr>
<tr>
<td>MATH 12 College Algebra</td>
<td>4</td>
</tr>
<tr>
<td>MATH 13 Elementary Statistics</td>
<td>4</td>
</tr>
<tr>
<td>MATH 16A Calculus for Social and Life Sciences</td>
<td>4</td>
</tr>
<tr>
<td>MATH 16B Calculus for Social and Life Sciences</td>
<td>4</td>
</tr>
<tr>
<td>MATH 29 Pre-Calculus Mathematics</td>
<td>4</td>
</tr>
<tr>
<td>MATH 30 Analytical Geometry and Calculus</td>
<td>4-5</td>
</tr>
<tr>
<td>MATH 42 Business Calculus</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 2A General Physics</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 2B General Physics</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 4A Principles of Physics: Mechanics</td>
<td>5</td>
</tr>
<tr>
<td>PHYS 4B Principles of Physics: Electricity and Magnetism</td>
<td>4</td>
</tr>
</tbody>
</table>

**TOTAL UNITS REQUIRED: 20**

Recommended Electives:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 16, CSCI 10 or CIS 50, INT 1</td>
<td></td>
</tr>
</tbody>
</table>

Note: The courses listed above may or may not satisfy Biological Science requirements at all transfer colleges. See a counselor.

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**WATERSHED ECOLOGY**

**A.S. DEGREE**

The Watershed Ecology Technician's (WET) program offers courses leading to an associate in science degree. Watershed ecology includes the study of all aspects of the environment including organisms within an entire watershed—the land area draining into the major creeks and river systems. The program can serve as the basic preparation for entry-level positions with organizations and governmental agencies that perform a variety of environmental studies. Students must fulfill program requirements and all associate degree requirements for the A.S. degree; see pages 42-43.

**REQUIRED CORE COURSES:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 1 General Biology OR</td>
<td></td>
</tr>
<tr>
<td>BIOL 11 Concepts of Biology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 13A Environmental Regulations</td>
<td>1</td>
</tr>
<tr>
<td>BIOL 13B Field Methods in Ecology</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 14 Natural History, Ecology and Conservation</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 95 Internship in Biological Sciences</td>
<td>1</td>
</tr>
<tr>
<td>GEGO 90/EST 90 Introduction to Geographic Information Systems (GIS)</td>
<td>3</td>
</tr>
</tbody>
</table>

**PLUS 9 UNITS FROM ANY OF THE FOLLOWING**

**ANIMAL STUDY EMPHASIS:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>BIOL 3 General Zoology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 16D Biology of Waterfowl and Marsh Birds</td>
<td>0.5</td>
</tr>
<tr>
<td>BIOL 16M Marine Mammals and Birds</td>
<td>1.5</td>
</tr>
<tr>
<td>BIOL 30 Introduction to Ornithology</td>
<td>2</td>
</tr>
<tr>
<td>BIOL 33 Introduction to Zoology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 35 Introduction to Entomology</td>
<td>2</td>
</tr>
</tbody>
</table>

**PLANT STUDY EMPHASIS:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGRI 158A Plant Identification</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 158B Plant Identification</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 2 Botany OR</td>
<td></td>
</tr>
<tr>
<td>BIOL 22 Introduction to Botany</td>
<td>4-4.5</td>
</tr>
<tr>
<td>BIOL 16C Vernal Pools and the California Prairie</td>
<td>0.5</td>
</tr>
<tr>
<td>BIOL 16E Ecology of the Sierran Conifer Forest</td>
<td>0.5</td>
</tr>
<tr>
<td>BIOL 23 Wildflower Identification (also AGRI 182)</td>
<td>0.5</td>
</tr>
<tr>
<td>BIOL 24 Wildland Trees &amp; Shrubs (Dendrology) (also AGRI 163)</td>
<td>4</td>
</tr>
</tbody>
</table>

**GENERAL EMPHASIS:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGRI 221 Introduction to Soil Science</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 16A Local Ecosystems of Placer County</td>
<td>0.5</td>
</tr>
<tr>
<td>GEGO 1 Physical Geography</td>
<td>3</td>
</tr>
<tr>
<td>INT 1 The Environment and the Human Impact</td>
<td>3</td>
</tr>
<tr>
<td>MATH 13 Elementary Statistics</td>
<td>4</td>
</tr>
</tbody>
</table>

**TOTAL UNITS REQUIRED: 25**

*Only 3 units total may be taken from the BIOL 16 Field Studies courses. Courses are grouped according to specific interests, but students are not limited to a specific emphasis. Students opting to take BIOL 1 are advised to consult with a counselor regarding pre/corequisites.*
Watershed ecology includes the study of all aspects of the environment including organisms within an entire watershed—the land area draining into the major creeks and river systems. The certificate program can serve as the basic preparation for entry-level positions with organizations and governmental agencies that perform a variety of environmental studies. A certificate is designed to provide career technical skills; it is not equivalent to an A.A. or A.S. degree.

**REQUIRED CORE COURSES:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 1</td>
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<td>BIOL 11</td>
<td>Concepts of Biology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 13A</td>
<td>Environmental Regulations</td>
<td>1</td>
</tr>
<tr>
<td>BIOL 13B</td>
<td>Field Methods in Ecology</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 14</td>
<td>Natural History, Ecology and Conservation</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 95</td>
<td>Internship in Biological Sciences</td>
<td>1</td>
</tr>
<tr>
<td>ENGL 1A</td>
<td>Introduction to Composition OR</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 12</td>
<td>Writing in the Workplace</td>
<td>3</td>
</tr>
<tr>
<td>GEOG 90/EST</td>
<td>90 Introduction to Geographic Information Systems</td>
<td>3</td>
</tr>
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</table>

**PLUS 9 UNITS FROM ANY OF THE FOLLOWING* ANIMAL STUDY EMPHASIS:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 3</td>
<td>General Zoology</td>
<td>4</td>
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<tr>
<td>BIOL 16D</td>
<td>Biology of Waterfowl and Marsh Birds</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 16M</td>
<td>Marine Mammals and Birds</td>
<td>1.5</td>
</tr>
<tr>
<td>BIOL 30</td>
<td>Introduction to Ornithology</td>
<td>2</td>
</tr>
<tr>
<td>BIOL 33</td>
<td>Introduction to Zoology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 35</td>
<td>Introduction to Entomology</td>
<td>2</td>
</tr>
</tbody>
</table>

**PLANT STUDY EMPHASIS:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGRI 158A</td>
<td>Plant Identification</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 158B</td>
<td>Plant Identification</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 2</td>
<td>Botany OR</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 22</td>
<td>Introduction to Botany</td>
<td>4-4.5</td>
</tr>
<tr>
<td>BIOL 16C</td>
<td>Vernal Pools and the California Prairie</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 16D</td>
<td>Ecology of the Sierran Conifer Forest</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 23</td>
<td>Wildflower Identification (also AGRI 182)</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 24</td>
<td>Wildland Trees &amp; Shrubs (Dendrology) (also AGRI 163)</td>
<td>4</td>
</tr>
</tbody>
</table>

**GENERAL EMPHASIS:**

<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGRI 221</td>
<td>Introduction to Soil Science</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 16A</td>
<td>Local Ecosystems of Placer County</td>
<td>5</td>
</tr>
<tr>
<td>GEOG 1</td>
<td>Physical Geography</td>
<td>3</td>
</tr>
<tr>
<td>INT 1</td>
<td>The Environment and the Human Impact</td>
<td>3</td>
</tr>
<tr>
<td>MATH 13</td>
<td>Elementary Statistics</td>
<td>4</td>
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</tbody>
</table>

**TOTAL UNITS REQUIRED: 28**

*Only 3 units total may be taken from the BIOL 16 Field Studies courses. Courses are grouped according to specific interests, but students are not limited to a specific emphasis. Students opting to take BIOL 1 are advised to consult with a counselor regarding pre/corequisites.

### Biological Sciences Courses

#### BIOL 1 GENERAL BIOLOGY

- **Units: 4**
- Prerequisite: Completion of CHEM 1A, or CHEM 3A and 3B (may be taken concurrently), or high school chemistry; completion of ENGL 50 or equivalent
- Advisory: Eligibility for ENGL 1A or equivalent
- Hours: 108 (54 lecture, 54 laboratory)
- First course in the General Biology sequence for biology majors and pre-professional students. Covers general biological concepts, with an emphasis on cellular and molecular biology, genetics, and evolution. (CSU, UC)

#### BIOL 2 BOTANY

- **Units: 4.5**
- Prerequisite: Completion of BIOL 1
- Advisory: Completion of ENGL 50, or eligibility for ENGL 11, or equivalent strongly recommended
- Hours: 144 (54 lecture, 90 laboratory)
- Introduction to botany, including classification, morphology, anatomy, physiology, diversity, ecology, and evolution emphasizing members of the Kingdoms Plantae, Fungi, Protista, and Monera. Topics relating to flowering plants stressed. Correlation of topics with scientific method and modern biological research. Nonlife science majors see BIOL 14, 22, and 44. (CSU, UC—with unit limitation)

#### BIOL 3 GENERAL ZOOLOGY

- **Units: 4**
- Prerequisite: Completion of BIOL 1 or BIOL 33
- Advisory: Completion of ENGL 50, or eligibility for ENGL 11, or equivalent strongly recommended
- Hours: 144 (36 lecture, 108 laboratory)
- A detailed survey of the animal kingdom stressing evolution and ecology of animals and functional anatomy of their major organ systems. Recommended for life science majors, premedical, preveterinary and related professional programs. (CSU, UC—with unit limitation)

#### BIOL 4 MICROBIOLOGY

- **Units: 5**
- Prerequisite: Completion of high school chemistry, CHEM A, or higher level chemistry course with a grade of “C” or better
- Advisory: Completion of ENGL 50, or eligibility for ENGL 11, or equivalent strongly recommended
- Hours: 162 (54 lecture, 108 laboratory)
- Introduction to the biochemistry, morphology, physiology, genetics, classification, and significance of microorganisms, especially bacteria and viruses. Emphasis on medically important organisms and their impact on human health. Students enrolling in BIOL 4 after having taken BIOL 8A will lose credit for BIOL 8A. (CSU, UC—with unit limitation)
**BIOL 5 HUMAN ANATOMY**
Units: 4
Prerequisite: Completion of ENGL 50 or equivalent
Advisory: Completion of BIOL 55, 56, HSCI 3, previous science course, or experience in health care field
Hours: 108 (54 lecture, 54 laboratory)
Structure, relationships among structures, and histology of the human body. A rigorous course in human anatomy designed especially for science/medical majors (premedical, prenursing, occupational and physical therapy, laboratory technician, medical technicin, medical education, zoology, biology, and other science-oriented majors). Cadavers utilized in the laboratory. Nonmajors see BIOL 55, 56, and 56L. Students enrolling in BIOL 5 after having taken BIOL 7A will lose credit for BIOL 7A. (CSU, UC—with unit limitation)

**BIOL 6 HUMAN PHYSIOLOGY**
Units: 5
Prerequisite: Completion of CHEM 2A or higher level Chemistry course and BIOL 5 or 7A/7B or 55
Advisory: Completion of ENGL 50, or eligibility for ENGL 11, or equivalent strongly recommended
Hours: 126 (72 lecture, 54 laboratory)
Function, regulation, and homeostasis of systems in the human body. Recommended for students in nursing, medicine, physical education, and occupational therapy, psychology, and life science majors. Experiments on nonliving systems, blood and circulation, muscle, nervous system and sense organs, ion balance and fluid environment, endocrines, respiration, and digestion. (CSU, UC—with unit limitation)

**BIOL 7A PRINCIPLES OF HUMAN ANATOMY**
Units: 2.5
Prerequisite: Completion of ENGL 50 or equivalent
Advisory: Completion of BIOL 55 or 56 or HSCI 3 or previous science course or experience in health care field
Hours: 72 (36 lecture, 36 laboratory)
Structure, relationships among structures, and histology of the organ systems of the human body. Includes integumentary, skeletal, nervous, and sensory systems. Cadaver procedures are used for instruction. The sequence of BIOL 7A/7B is equivalent to BIOL 5. Students enrolling in BIOL 5 after having taken BIOL 7A will lose credit for BIOL 7A. (CSU, UC—with unit limitation)

**BIOL 7B PRINCIPLES OF HUMAN ANATOMY**
Units: 2.5
Prerequisite: Completion of BIOL 7A with a grade of "C" or better
Hours: 72 (36 lecture, 36 laboratory)
Structure, relationships among structures, and histology of the organ system of the human body. Includes muscle, cardiovascular, lymphatic, endocrine, respiratory, digestive, urinary and reproductive systems. Cadaver procedures are used for instruction. The sequence of BIOL 7A/7B is equivalent to BIOL 5. (CSU, UC—with unit limitation)

**BIOL 8A MICROBIOLOGY**
Units: 2.5
Prerequisite: Completion of high school chemistry, CHEM A, or higher level chemistry course with a grade of "C" or better
Advisory: Completion of ENGL 50, or eligibility for ENGL 11, or equivalent strongly recommended
Hours: 81 (27 lecture, 54 laboratory)
Introduction to the biochemistry, morphology, classification and physiology of microorganisms, especially bacteria. Emphasis on medically significant organisms and their impact on human health. The sequence of BIOL 8A/8B is equivalent to BIOL 4. Students enrolling in BIOL 4 after having taken BIOL 8A will lose credit for BIOL 8A. (CSU, UC—with unit limitation)

**BIOL 8B MICROBIOLOGY**
Units: 2.5
Prerequisite: Completion of BIOL 8A with a grade of "C" or better
Advisory: Completion of ENGL 50, or eligibility for ENGL 11, or equivalent strongly recommended
Hours: 81 (27 lecture, 54 laboratory)
Introduction to microbial genetics and metabolic regulation, viruses, microbial control, host defense, immunization, epidemiology, mechanisms of pathogenicity, and significance of microorganisms, especially bacteria and viruses. Emphasis on medically important organisms and their impact on human health. The sequence of BIOL 8A/8B is equivalent to BIOL 4. (CSU, UC—with unit limitation)

**BIOL 10 INTRODUCTION TO BIOLOGY**
Units: 3
Advisory: Eligibility for ENGL 1A or ESL 40W
Hours: 54 lecture
Designed specifically for non-life science majors, covering organization of life, cellular processes, genetics and evolution, diversity of life, ecology, and the impact of humans on, and interdependence with, the environment. Will meet life science requirements in most general education programs. Does not fulfill laboratory science requirement. Not open to those who have completed BIOL 1 or BIOL 11. (CSU, UC—with unit limitation)

**BIOL 11 CONCEPTS OF BIOLOGY**
Units: 4
Advisory: Eligibility for ENGL 1A or ESL 40W, and MATH 12 or equivalent
Hours: 108 (54 lecture, 54 laboratory)
An introduction to the main concepts of biology. Covers molecular and cell biology, heredity and nature of genes, biotechnology, evolution, diversity of life, and principles of ecology. Designed for non-life science majors desiring an introductory biology course with a lab. Students enrolling in BIOL 11 after having taken BIOL 10 will lose credit for BIOL 10. (CSU, UC—with unit limitation)
BIOL 13A ENVIRONMENTAL REGULATIONS
Units: 1
Advisory: Completion of BIOL 14 or equivalent recommended
Hours: 18 lecture
Survey of major California environmental regulations plus relevant federal regulations. Designed using case study analyses to explore environmental laws applicable to water, land and air resources. (CSU)

BIOL 13B FIELD METHODS IN ECOLOGY
Units: 3
Advisory: Completion of BIOL 14 or equivalent strongly recommended
Hours: 90 (36 lecture, 54 laboratory)
Introduction to methods for sampling and studying environmental parameters with emphasis on watershed-based ecosystems. Identification of microscopic and macroscopic organisms, especially indicator species, quantitative and qualitative field research techniques and procedures applicable to environmental assessment. Field trips required. (CSU)

BIOL 14 NATURAL HISTORY, ECOLOGY AND CONSERVATION
Units: 4
Advisory: Eligibility for ENGL 1A
Hours: 108 (54 lecture, 54 laboratory)
Introduction to the study of biology and ecology of organisms and ecosystems of the world, with an emphasis on California. Special focus on significance of functioning ecosystems and human influence on biological environment. (CSU, UC)

BIOL 15 MARINE BIOLOGY
Units: 4
Advisory: Completion of ENGL 50, or eligibility for ENGL 11, or equivalent strongly recommended
Hours: 108 (54 lecture, 54 laboratory)
Introduction to basic biological and ecological principles of major saltwater environments. Stresses conservation and appropriate utilization of marine resources. Designed for both science and non-science majors. Laboratory hours partially fulfilled by required field trips. Hiking and boat travel may be necessary. Camping and entrance fees may be required. (CSU, UC)

BIOL 16 FIELD STUDIES IN BIOLOGY
Units: 0.5-5
Designed to cover field study activities and topics relevant to biology. Courses provide information and hands-on experiences at selected sites which best demonstrate biological principles. Topics and places vary with each subtitle. See class schedule for current semester offerings. Each subtitle may be taken once (except BIOL 16G and 16Q). (CSU)

BIOL 16A LOCAL ECOSYSTEMS OF PLACER COUNTY
Units: 0.5
Hours: 13 (7 lecture, 6 laboratory)
An introduction to local natural areas and their inhabitants. Selected ecosystems in Placer County are investigated in the field to identify and study the characteristic plants and animals and discover their relationships with the physical environment. Specific study sites may vary. (CSU)

BIOL 16B LOCAL ECOSYSTEMS OF NEVADA COUNTY
Units: 0.5
Hours: 13 (7 lecture, 6 laboratory)
An introduction to local natural areas and their inhabitants. Selected ecosystems within Nevada County are investigated in the field to identify and study the characteristics of plants and animals and discover their relationships with the physical environment. Specific study sites may vary. (CSU)

BIOL 16C VERNAL POOLS AND THE CALIFORNIA PRAIRIE
Units: 0.5
Hours: 13 (7 lecture, 6 laboratory)
Explores the ecological past, present, and future of California’s Great Valley ecosystems. Emphasis on remaining natural areas and conservation efforts. Special attention given to grasslands and vernal pool habitats. (CSU)

BIOL 16D BIOLOGY OF WATERFOWL AND MARSH BIRDS
Units: 0.5
Hours: 13 (7 lecture, 6 laboratory)
Identification and observation of marsh birds (primarily ducks, geese, swans, and wading birds) in the field. Includes general waterfowl biology and ecology. Emphasizes evolution, migration, reproductive cycles, current population trends, and habitat needs. Operational needs and conflicts of national and local wildlife refuge system are discussed. (CSU)

BIOL 16E ECOLOGY OF THE SIERRAN CONIFER FOREST
Units: 0.5
Hours: 13 (7 lecture, 6 laboratory)
Introduction to forest biology/ecology, emphasizing inter-relationships between the Sierran forest inhabitants (animals, plants, fungi) and their environment. Study sites include a variety of forest and other associated mountain ecological communities. Depending on season offered, special topics may include: fungi biology, wildflower ecology, tree anatomy and physiology, forest nutrient cycles, forest birds, and soil organisms. (CSU)
BIOL 16G FIELD PALEONTOLOGY AND ANCIENT ENVIRONMENTS
Also known as ESCI 16G
Units: 1-4
Hours: 30 (12 lecture, 18 laboratory) per unit
Investigations into the ecology of environments in the geologic past through field work at fossil sites. Comparisons/contrasts made between ancient (fossil) communities and the current (living) communities of selected study sites. Differences and similarities between the plants and animals used as evidence to reconstruct ancient ecological communities. May be taken four times for credit. (CSU)

BIOL 16H ECOLOGY OF THE MENDOCINO COAST
Units: 1
Hours: 30 (12 lecture, 18 laboratory)
Field Biology class examining the Northern California Coast and its diverse ecological environments. Using the Fort Bragg/Mendocino/Fort Ross areas, this field class investigates the biological relationships found in: the redwood, riparian, pygmy, mixed evergreen and closed-cone pine forests, and the shoreline communities of tidepool, sandy beach, dune, prairie and scrub. Plants, animals, environmental factors and effects of human activities are assessed for each of the ecological communities examined. Hiking may be necessary. Camping and entrance fees may be required. (CSU)

BIOL 16I BIOLOGY OF MONO LAKE AND THE GREAT BASIN
Units: 1
Hours: 30 (12 lecture, 18 laboratory)
Natural history and ecology of the Great Basin with special emphasis on Mono Lake and the Mono Basin. Field study examines physical, biological, historical, and ecological aspects that make the Mono Basin unique. Emphasis on biological and ecological aspects of the Mono Basin. (CSU)

BIOL 16J BIOLOGY OF POINT REYES NATIONAL SEASHORE
Units: 1
Hours: 30 (12 lecture, 18 laboratory)
Field Biology class exploring the coastal mosaic of Point Reyes National Seashore and vicinity. Using the ecological communities present (forests, shoreline, pond and prairie), this area provides a rich biological “laboratory” to study its unique organisms and natural ecosystems, including grasslands, mudflats, forests, marshes, cliffs, beach, and dune sites. Depending on season offered, the emphasis may be on wildflowers, mushrooms, owls, elk, reptiles or other life forms. Hiking may be necessary. Camping and entrance fees may be required. (CSU)

BIOL 16K FOOTHILL ECOLOGY OF THE SIERRA NEVADA
Units: 1.5
Hours: 45 (18 lecture, 27 laboratory)
Field course designed to investigate ecology of the foothills to mid-montane zones of the Sierra Nevada. Focus on major terrestrial and aquatic ecosystems and ecological islands from 500 to 6000 feet elevation. (CSU)

BIOL 16L CALIFORNIA WATERWAYS (RIPARIAN AND AQUATIC BIOLOGY)
Units: 1.5
Hours: 45 (18 lecture, 27 laboratory)
Biological diversity and ecology of aquatic environments and the biology of water life. Focuses on the “water cycle” and its biological importance and human interactions. Ponds, vernal pools, streams, rivers, lakes, springs, meadows, bogs, marshes (fresh and salt), shorelines, deltas, and bay/estuary environments are investigated. Study sites may include Lake Tahoe, the American River, San Francisco Bay and other aquatic locations. Hiking or boat travel may be necessary. Camping, entrance and transportation fees may be required. (CSU)

BIOL 16M MARINE MAMMALS AND BIRDS
Units: 1.5-6
Hours: 45 (18 lecture, 27 laboratory)
Introduction to the biology of marine mammals and marine birds. Shore and pelagic organisms are studied, emphasizing California-associated species and their habitats. Field and lecture topics include: ecology, evolution, behavior, reproduction, distribution, anatomy, physiology, identification, and population status of whales, true and eared seals, sea otters, shore, bay and pelagic birds. Hiking and boat travel may be necessary. Camping and entrance fees may be required. (CSU)

BIOL 16N MODOC PLATEAU ECOLOGY
Units: 1.5
Hours: 45 (18 lecture, 27 laboratory)
Field biology of volcanic and cold desert landscapes found in the Modoc Plateau region of California/Oregon. Ecosystems and environmental relationships stressed. Areas of emphasis include forest ecology, fresh water marsh/watershed, environmental factors, volcanic geology, plant succession, and human influences. Study sites include Lava Beds National Monument and Tule Lake Wildlife Refuge. Hiking may be necessary. Camping, entrance and transportation fees may be required. (CSU)

BIOL 16O HIGH SIERRA AND WHITE MOUNTAIN ECOLOGY
Units: 2
Hours: 54 (27 lecture, 27 laboratory)
Examines high-elevation mountain ecosystems using the high Sierra Nevada and White-Inyo Mountains of California as specific study sites. Observation and study of sub-alpine and alpine ecosystems like forests, montane chaparral, meadows, aquatic habitats, alpine tundra, and fell-fields. (CSU)
BIOL 16P DEATH VALLEY AND DESERT ECOSYSTEMS
Units: 2
Hours: 54 (27 lecture, 27 laboratory)
Explores the unique desert ecosystems of Death Valley National Park and nearby areas. Extreme differences of elevation from high mountains to below sea level provide a rich variety of desert environments, plants and animals to study. Field work emphasizes identification of animals and plants (many unique to these exotic desert habitats), their special physical and behavioral adaptations to the harsh desert climate and habitats, and the effects of human activities upon the fragile desert ecosystems. Hiking may be necessary. Camping, entrance and transportation fees may be required. (CSU)

BIOL 16Q ECOLOGY OF MID-WESTERN NORTH AMERICA
Units: 2
Hours: 54 (27 lecture, 27 laboratory)
Introduction to ecology of the major biomes, communities and life zones of the Midwestern and Western regions of the United States, emphasizing plains grasslands, montane forests, desert badlands, alpine zones, and aquatic habitats. Each ecological area explored as to its climate, common plants and animals, range, distribution, relationships, geology, historical changes, paleoecology and other environmental factors. Fossil and other evidence of past environments will be compared to present communities. Hiking may be necessary. Camping, entrance and transportation fees may be required. May be taken three times for credit. (CSU)

BIOL 16R CANYON LANDS OF THE SOUTHWEST
Units: 2
Hours: 54 (27 lecture, 27 laboratory)
Biology/ecology of the Southwestern Canyon lands and semi-arid regions associated with the Grand Canyon, Zion, Bryce and nearby natural areas. Local plants, animals, microenvironments, river systems, human impacts and resource management and special biotic relationships with the canyon landscapes emphasized. Hiking may be necessary. Camping, entrance and transportation fees may be required. (CSU)

BIOL 16T COASTAL HABITATS OF NORTHERN CALIFORNIA
Units: 2
Hours: 54 (27 lecture, 27 laboratory)
Explores the unique biological and ecological features of the California north coast, including Redwoods National Park, Prairie Creek Redwoods, and Big Lagoon. Coastal ecosystems to be studied include the redwood forest, coastal grassland, rocky tidepools, marshes, stream, bog, coastal strand, and mixed-evergreen forest (their climate, geology, ecology, and plant and animal diversity). The human impacts of a growing population with resource demands discussed. Hiking may be necessary. Camping, entrance and transportation fees may be required. (CSU)

BIOL 16U COASTAL HABITATS OF CENTRAL CALIFORNIA
Units: 2
Hours: 54 (27 lecture, 27 laboratory)
Biological survey of the unique features of the central California coast between Morro Bay, Big Sur, Monterey Bay, and Point Reyes National Seashore. Coastal habitats explored, identifying coastal plants, animals, and geologic processes, and emphasizing the interrelationships characteristic of coastal environments. Environments studied include sandy beach, ocean bay, tidepool, mudflat, coastal forests, oak woodland, grasslands and coastal scrub. Areas will be contrasted with other coastal regions. Human impacts and living styles will be viewed as they effect the natural environments. Hiking and boat travel may be necessary. Camping, entrance and transportation fees may be required. (CSU)

BIOL 16V DESERTS OF SOUTHERN CALIFORNIA
Units: 2
Hours: 54 (27 lecture, 27 laboratory)
Explore and study the “hot” deserts of Southern California (the Mojave and Sonoran/Colorado Deserts and regional variations), discovering their unique animals and plants which are adapted to these extreme and beautiful environments. These deserts will be compared to nearby coastal habitats or the desert ecosystems in Arizona (depending on local conditions). California study sites visited include, at least, Joshua Tree National Park, Mojave Desert, Salton Sea, and Anza-Borrego State Park. Focuses upon the interdependency between the physical environments and the biological inhabitants that live there. Hiking may be necessary. Camping, entrance and transportation fees may be required. (CSU)

BIOL 16W BIOLOGY OF PACIFIC NORTHWEST AND THE CASCADES
Units: 2
Hours: 54 (27 lecture, 27 laboratory)
Biology of the Pacific Northwest rainforest, and coastal and mountain environments of Washington and Oregon, such as the Olympic Peninsula and Cascade Mountains. Special topics include ecological succession and coastal biogeography. (CSU)

BIOL 16Y ECOLOGY OF SELECTED WILDERNESS ECOSYSTEMS
Units: 2
Hours: 54 (27 lecture, 27 laboratory)
A field study of selected wilderness sites, comparing their biological inventory, ecological relationships, physical environments, and sensitivity to human interactions and activities. Both qualitative and quantitative field survey techniques will be used to record ecological data at each study site. Management techniques, history, and objectives of wilderness preservation and resource use conflicts will be emphasized. (CSU)
**BIOL 16Z ECOLOGY OF THE AMERICAN RIVER**  
Units: 0.5  
Hours: 13 (7 lecture, 6 laboratory)  
Aquatic, riparian, and associated ecosystems of Sierra Nevada river systems with specific attention on the American River system. (CSU)

**BIOL 17A EXTENDED FIELD BIOLOGY OF SELECTED BIOMES**  
Units: 5  
Hours: 162 (54 lecture, 108 laboratory)  
An extended field biology study comparing selected biomes and ecosystems, emphasizing first hand observations, field measurements, sampling of the biota and the applications of biological and ecological concepts applied to broad study areas. Intensive observations of interrelationships between the living and non-living environmental elements of the selected sites compared, including: climates, geology, plant and animal identification, and animal behaviors. Comparison of numerous habitats within the biomes studied. Extended hiking, air and boat travel may be necessary. Camping, entrance and transportation fees may be required. (CSU)

**BIOL 20 CURRENT TOPICS IN BIOLOGY—A FILM/LECTURE SERIES**  
Units: 1  
Hours: 18 lecture  
A weekly guest lecture and/or film series on topics of current interest in the field of biology. Designed as an enrichment course for students majoring in biology, health sciences, forestry, agriculture, horticulture, and related fields. May be repeated for credit under different subtitles. (CSU, UC—with unit limitation)

**BIOL 21 HORTICULTURAL PLANT SCIENCE**  
Also known as AGRI 156  
Units: 4  
Advisory: Eligibility for ENGL 1A or ESL 40W  
Hours: 108 (54 lecture, 54 laboratory)  
Introduction to biological principles of horticultural practices emphasizing structure, growth, physiology and reproduction of flowering plants and their responses to modifications and environment; including propagation, media, soil and plant nutrition. Explores the interrelationship of horticulture with other life sciences and technology. Identifies the value of plants and gardens in past and present societies. (CSU, UC)

**BIOL 22 INTRODUCTION TO BOTANY**  
Units: 4  
Advisory: Completion of ENGL 50, or eligibility for ENGL 11, or equivalent strongly recommended  
Hours: 108 (54 lecture, 54 laboratory)  
Study of the biology of plants, fungi and selected protists. Includes the structure, function, evolution and ecology of these groups, as well as identification of common and important species. Emphasis on the significance of these species to humanity. Designed for non-science majors. (CSU, UC—with unit limitation)

**BIOL 23 WILDFLOWER IDENTIFICATION**  
Also known as AGRI 182  
Units: 1  
Hours: 26 (13 lecture, 13 activity)  
Plant identification, terminology, keying, uses, and ecology. Field trips may require ability to hike moderate distances. (CSU)

**BIOL 24 WILDLAND TREES AND SHRUBS (DENDROLOGY)**  
Also known as AGRI 163  
Units: 4  
Advisory: Eligibility for ENGL 1A or ESL 40W  
Hours: 108 (54 lecture, 54 laboratory)  
Botanical characteristics, taxonomy, physiology, and community relationships of the major trees and shrubs in the Western United States. Discussion of commercial uses and geographic ranges of these plants. Identifying specimens under field conditions and using herbarium specimens. (CSU)

**BIOL 28 INDEPENDENT STUDY**  
Units: 1-3  
Designed for students interested in furthering their knowledge at an independent study level in an area where no specific curriculum offering is currently available. Independent study might include, but is not limited to, research papers, special subject area projects, and research projects. May be taken four times for credit. See Independent Study page in catalog. (CSU, UC—with unit limitation)

**BIOL 30 INTRODUCTION TO ORNITHOLOGY**  
Units: 2  
Advisory: Eligibility for ENGL 1A or ESL 40W  
Hours: 54 (27 lecture, 27 laboratory)  
Introduction to ecology, evolution, and identification of birds, with emphasis on Northern California avifauna. Field trips included. (CSU, UC)
BIOL 33 INTRODUCTION TO ZOOLOGY
Units: 4
Advisory: Completion of ENGL 50, or eligibility for ENGL 11, or equivalent strongly recommended
Hours: 108 (54 lecture, 54 laboratory)
A survey of the animal kingdom emphasizing functional anatomy, ecology, and natural history of the important groups of animals. Designed for nonscience majors. (CSU, UC—with unit limitation)

BIOL 35 INTRODUCTION TO ENTOMOLOGY
Units: 2
Advisory: Completion of ENGL 50, or eligibility for ENGL 11, or equivalent strongly recommended
Hours: 54 (27 lecture, 27 laboratory)
Emphasizes the importance of insects and their biology, natural history and identification. Usually offered alternate Spring semesters. Recommended for general education students, forestry, agriculture, and elementary education majors. (CSU, UC)

BIOL 36 INTRODUCTION TO MAMMALOGY
Units: 2
Advisory: Completion of ENGL 50, or eligibility for ENGL 11, or equivalent strongly recommended
Hours: 54 (27 lecture, 27 laboratory)
Emphasis on mammals and their significance to humanity. Topics include: identification; local species; behavioral, structural, and physiological adaptations; ecology and human relationships. Recommended for general education students or other majors interested in mammals. (CSU)

BIOL 44 INTRODUCTION TO MICROBIOLOGY
Units: 3
Advisory: Completion of ENGL 50, or eligibility for ENGL 11, or equivalent strongly recommended
Hours: 90 (36 lecture, 54 laboratory)
A survey course for non-biology majors emphasizing environmental microbiology including important bacteria, fungi, algae, protozoa, and viruses. Meets lab science requirement. Recommended for general education students and especially for home economics, agriculture, forestry and other food/water service related majors. Nursing and allied health majors should take BIOL 4. Laboratory hours partially fulfilled by required field trips. (CSU, UC—with unit limitation)

BIOL 55 GENERAL HUMAN ANATOMY AND PHYSIOLOGY
Units: 4
Advisory: Completion of ENGL 50, or eligibility for ENGL 11, or equivalent strongly recommended
Hours: 108 (54 lecture, 54 laboratory)
Structure and function of human organ systems. Designed for nonscience majors desiring a basic understanding of the human body. Fetal pigs dissected in the laboratory. Experiments performed on models, nonliving systems, and oneself. (CSU, UC—with unit limitation)

BIOL 56 BIOLOGY: A HUMAN PERSPECTIVE
Units: 3
Advisory: Completion of ENGL 50, or eligibility for ENGL 11, or equivalent strongly recommended
Hours: 54 lecture
Principles of biology and how they relate to humans. Emphasis on the human organism, including anatomy, physiology, medicine, research, genetics, evolution, ecology and human impacts on the environment. Not recommended for Biological Sciences majors. Not open to those who have completed BIOL 10, 11, or 55. (CSU, UC—with unit limitation)

BIOL 56L BIOLOGY: A HUMAN PERSPECTIVE (LABORATORY)
Units: 1
Corequisite: Concurrent enrollment in BIOL 56
Advisory: Completion of ENGL 50, or eligibility for ENGL 11, or equivalent strongly recommended
Hours: 54 laboratory
Optional laboratory course to be taken with BIOL 56. Topics parallel lecture course. (CSU, UC—with unit limitation)

BIOL 95 INTERNSHIP IN BIOLOGICAL SCIENCES
Units: 0.5-4
Designed for advanced students to work in an area related to their educational or occupational goal. Provides new on-the-job technical training under the direction of a worksite supervisor, allowing students to expand knowledge and skills in the chosen field. Mandatory orientation session and faculty approval to determine eligibility. Students may earn up to a total of 16 units in internship courses (any course numbered 95 and PDEV 94). (CSU—with unit limitation)

BIOL 300 SELECTED TOPICS IN BIOLOGICAL SCIENCES
Units: 0.5-4
Courses of study will cover topics relevant to the discipline. Topics will vary. Course content and unit credit to be determined by the division. May be offered as seminar, lecture, or lecture/laboratory classes. Students may repeat “300” courses within a discipline only when a topic is different from previously completed course. See Selected Topics page in catalog. (CSU, UC—with unit limitation)

BIOL 301 NATURAL HISTORY OF COSTA RICA
Units: 1-4
Hours: As scheduled for the appropriate combination of lecture/laboratory hours
The new world (American) tropics are referred to as the neotropics. This is a survey course covering the basics in neotropical ecology and natural history including general ecological principles, rain forest structure and function, evolutionary patterns, life zones of Costa Rica (specifically), and plants, birds, and mammals of the rainforest. (CSU)
Business

BUSINESS, APPLIED ACADEMICS, & PHYSICAL EDUCATION
DEAN: Luis Sanchez
ASSOCIATE DEAN: Darlene Jackson
DIVISION OFFICE: B 3
LIAISON COUNSELORS: E. Dickson, B. Hawkes, T. Maddux, Reyes Ortega

The business discipline offers training in eight major areas: Accounting, Business Administration, Business Entrepreneurship, General Business, Management, Marketing, Risk Management and Insurance, and Administrative Professional. For Computer Information Systems, Computer Science, and Real Estate see separate catalog listings. The Business department plays a vital role in preparing students for their careers. Experience has demonstrated the importance of a background in general education for all students planning a career in business.

TRANSFER MAJOR REQUIREMENTS in Business Administration are available in the Counseling Center. In all cases, students should consult with a counselor for specific transfer requirements. Graduates in Business Administration are qualified for positions in Accounting, Finance, Management, Marketing, and Business Teacher Education.

A.A. and A.S. degrees can be earned in the major areas of business. Also some transfer majors may earn A.A./A.S. degrees. Certificates may be earned in some areas of business.

ACCOUNTING
A.A. OR A.S. DEGREE AND/OR CERTIFICATE
Successful completion of the curriculum in accounting prepares students for positions as accounting clerks, bookkeepers, payroll clerks or entry-level accountants. Students must fulfill major requirements and all associate degree requirements for the A.A./A.S. degree; see pages 42-43. A certificate is designed to provide career technical skills; it is not equivalent to an A.A. or A.S. degree.

REQUIRED COURSES

<table>
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<tr>
<th>COURSE</th>
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<tr>
<td>BUS 1 Financial Accounting I</td>
<td>3</td>
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<td>BUS 2 Financial Accounting II</td>
<td>3</td>
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<tr>
<td>BUS 3 Managerial Accounting</td>
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<tr>
<td>BUS 9 Federal Income Taxation of Individuals</td>
<td>3</td>
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<td>CIS 50 Applying Computer Software OR</td>
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<tr>
<td>CSCI 10 Introduction to Computing</td>
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<td>CIS 80 Spreadsheets in a Business Environment</td>
<td>3</td>
</tr>
</tbody>
</table>

PLUS A MINIMUM OF 3 ADDITIONAL UNITS FROM:

<table>
<thead>
<tr>
<th>COURSE</th>
<th>UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS A Elements of Accounting OR</td>
<td>3</td>
</tr>
<tr>
<td>BUS 1 Financial Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>BUS 52 Creating a Virtual Office (also CIS 52)</td>
<td>3</td>
</tr>
<tr>
<td>BUS 53 Marketing a Virtual Office (also CIS 53)</td>
<td>3</td>
</tr>
<tr>
<td>BUS 54 Managing a Virtual Office (also CIS 54)</td>
<td>3</td>
</tr>
<tr>
<td>BUS 64 Business Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>BUS 85 Introduction to Oral Communication</td>
<td>3</td>
</tr>
<tr>
<td>BUS 115 Introduction to Banking</td>
<td>3</td>
</tr>
<tr>
<td>BUS 150 Business Capstone</td>
<td>3</td>
</tr>
<tr>
<td>CIS 80 Spreadsheets in a Business Environment</td>
<td>3</td>
</tr>
<tr>
<td>CIS 90 Database Management</td>
<td>3</td>
</tr>
</tbody>
</table>

TOTAL UNITS REQUIRED: 21

ADMINISTRATIVE PROFESSIONAL
A.A. OR A.S. DEGREE AND/OR CERTIFICATE
FORMERLY OFFICE TECHNOLOGY—ADMINISTRATIVE SUPPORT CONCENTRATION
Successful completion of the curriculum for the administrative professional qualifies students for entry-level positions requiring skills and abilities to provide administrative support for businesses and similar organizations. Students must fulfill major requirements and all associate degree requirements for the A.A./A.S. degree; see pages 42-43. A certificate is designed to provide career technical skills; it is not equivalent to an A.A. or A.S. degree.

REQUIRED CORE COURSES

<table>
<thead>
<tr>
<th>COURSE</th>
<th>UNITS</th>
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</thead>
<tbody>
<tr>
<td>BUS 20 Introduction to Business</td>
<td>3</td>
</tr>
<tr>
<td>BUS 55 International Business Practices</td>
<td>3</td>
</tr>
<tr>
<td>BUS 64 Business Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>BUS 102 Management Communications</td>
<td>3</td>
</tr>
<tr>
<td>CIS 50 Applying Computer Software</td>
<td>3</td>
</tr>
<tr>
<td>CIS 70 Word Processing—Beyond the Basics</td>
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PLUS 3 ADDITIONAL UNITS FROM THE FOLLOWING:

<table>
<thead>
<tr>
<th>COURSE</th>
<th>UNITS</th>
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<tbody>
<tr>
<td>BUS 8 Computerized Accounting for Windows</td>
<td>3</td>
</tr>
<tr>
<td>BUS 20 Introduction to Business</td>
<td>3</td>
</tr>
<tr>
<td>BUS 48 Business Law</td>
<td>3</td>
</tr>
<tr>
<td>BUS 55 International Business Practices</td>
<td>3</td>
</tr>
<tr>
<td>BUS 64 Business Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>BUS 101 Personal Money Management</td>
<td>3</td>
</tr>
<tr>
<td>BUS 115 Introduction to Banking</td>
<td>3</td>
</tr>
<tr>
<td>BUS 150 Business Capstone</td>
<td>3</td>
</tr>
</tbody>
</table>

TOTAL UNITS REQUIRED: 21
**BUSINESS ADMINISTRATION**  
**A.A. OR A.S. DEGREE**
The A.A. or A.S. degree in Business Administration is primarily for students who plan to transfer with a business major. See a counselor for specific transfer requirements. Students must fulfill major requirements and all associate degree requirements for the A.A./A.S. degree; see pages 42-43.

**REQUIRED COURSES**
<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS 1 Financial Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>BUS 2 Financial Accounting II</td>
<td>3</td>
</tr>
<tr>
<td>BUS 3 Managerial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>CIS 50 Applying Computer Software OR</td>
<td></td>
</tr>
<tr>
<td>CSCI 10 Introduction to Computing</td>
<td>3</td>
</tr>
<tr>
<td>BUS 48 Business Law OR</td>
<td></td>
</tr>
<tr>
<td>ECON 1B Fundamentals of Economics</td>
<td>3</td>
</tr>
<tr>
<td>ECON 1A Fundamentals of Economics</td>
<td>3</td>
</tr>
<tr>
<td>MATH 13 Elementary Statistics OR</td>
<td></td>
</tr>
<tr>
<td>MATH 20 Finite Mathematics OR</td>
<td></td>
</tr>
<tr>
<td>MATH 42 Business Calculus</td>
<td>3-4</td>
</tr>
</tbody>
</table>

**TOTAL UNITS REQUIRED:** 21-22

Recommended Elective: BUS 150

**BUSINESS ENTREPRENEURSHIP**  
**A.A. OR A.S. DEGREE AND/OR CERTIFICATE**  
**(FORMERLY SMALL BUSINESS)**
The Business Entrepreneurship curriculum prepares students to be owners, managers or employees in small to mid-size businesses. This program also serves as a business foundation for students seeking careers in entrepreneurial pursuits or small business development. Students must fulfill major requirements and all associate degree requirements for the A.A./A.S. degree; see pages 42-43. A certificate is designed to provide career technical skills; it is not equivalent to an A.A. or A.S. degree.

**REQUIRED COURSES**
<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS B Accounting and Finance for the Small Business Owner OR</td>
<td></td>
</tr>
<tr>
<td>BUS 1 Financial Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>BUS 20 Introduction to Business</td>
<td>3</td>
</tr>
<tr>
<td>BUS 28 Independent Study OR</td>
<td></td>
</tr>
<tr>
<td>BUS 95 Internship in Business</td>
<td>1-3</td>
</tr>
<tr>
<td>BUS 102 Management Communications</td>
<td>3</td>
</tr>
<tr>
<td>BUS 120 Introduction to Marketing</td>
<td>3</td>
</tr>
<tr>
<td>BUS 140 Small Business Management</td>
<td>3</td>
</tr>
</tbody>
</table>

**PLUS A MINIMUM OF 6 ADDITIONAL UNITS FROM:**
<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS 48 Business Law</td>
<td>3</td>
</tr>
<tr>
<td>BUS 52 Creating a Virtual Office (also CIS 52)</td>
<td>3</td>
</tr>
<tr>
<td>BUS 55 International Business Practices</td>
<td>3</td>
</tr>
<tr>
<td>BUS 85 Introduction to Oral Communication OR</td>
<td>3</td>
</tr>
<tr>
<td>BUS 86 Written Communication for Business</td>
<td>3</td>
</tr>
<tr>
<td>BUS 101 Personal Money Management</td>
<td>3</td>
</tr>
<tr>
<td>BUS 115 Introduction to Banking</td>
<td>3</td>
</tr>
<tr>
<td>BUS 120 Introduction to Marketing</td>
<td>3</td>
</tr>
<tr>
<td>BUS 150 Business Capstone</td>
<td>3</td>
</tr>
<tr>
<td>CIS 80 Spreadsheets in a Business Environment</td>
<td>3</td>
</tr>
<tr>
<td>REAL 74 Real Estate Principles</td>
<td>3</td>
</tr>
</tbody>
</table>

**TOTAL UNITS REQUIRED:** 24

**GENERAL BUSINESS**  
**A.A. OR A.S. DEGREE AND/OR CERTIFICATE**
Successful completion of the curriculum in general business prepares students for entry-level positions in business. Students must fulfill major requirements and all associate degree requirements for the A.A./A.S. degree; see pages 42-43. A certificate is designed to provide career technical skills; it is not equivalent to an A.A. or A.S. degree.

**REQUIRED COURSES**
<table>
<thead>
<tr>
<th>Course</th>
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</tr>
</thead>
<tbody>
<tr>
<td>BUS A Elements of Accounting OR</td>
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<tr>
<td>BUS 1 Financial Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>BUS 20 Introduction to Business</td>
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<tr>
<td>BUS 48 Business Law</td>
<td>3</td>
</tr>
<tr>
<td>BUS 64 Business Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>BUS 85 Introduction to Oral Communication OR</td>
<td>3</td>
</tr>
<tr>
<td>BUS 102 Management Communications</td>
<td>3</td>
</tr>
<tr>
<td>CIS 50 Applying Computer Software OR</td>
<td>3</td>
</tr>
<tr>
<td>CSCI 10 Introduction to Computing</td>
<td>3</td>
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</table>

**PLUS 6 ADDITIONAL UNITS FROM:**
<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS 8 Computerized Accounting for Windows</td>
<td>3</td>
</tr>
<tr>
<td>BUS 49 Law and Society</td>
<td>3</td>
</tr>
<tr>
<td>BUS 55 International Business Practices</td>
<td>3</td>
</tr>
<tr>
<td>BUS 86 Written Communication for Business</td>
<td>3</td>
</tr>
<tr>
<td>BUS 100 Management Concepts and Applications</td>
<td>3</td>
</tr>
<tr>
<td>BUS 101 Personal Money Management</td>
<td>3</td>
</tr>
<tr>
<td>BUS 115 Introduction to Banking</td>
<td>3</td>
</tr>
<tr>
<td>BUS 120 Introduction to Marketing</td>
<td>3</td>
</tr>
<tr>
<td>BUS 150 Business Capstone</td>
<td>3</td>
</tr>
<tr>
<td>CIS 80 Spreadsheets in a Business Environment</td>
<td>3</td>
</tr>
<tr>
<td>REAL 74 Real Estate Principles</td>
<td>3</td>
</tr>
</tbody>
</table>
MANAGEMENT
A.A. OR A.S. DEGREE AND/OR CERTIFICATE
The curriculum in Management prepares students for entry-level management positions. Students must fulfill major requirements and all associate degree requirements for the A.A./A.S. degree; see pages 42-43. A certificate is designed to provide career technical skills; it is not equivalent to an A.A. or A.S. degree.

REQUIRED COURSES

<table>
<thead>
<tr>
<th>COURSE</th>
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</tr>
</thead>
<tbody>
<tr>
<td>BUS A Elements of Accounting OR</td>
<td></td>
</tr>
<tr>
<td>BUS 1 Financial Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>BUS 20 Introduction to Business</td>
<td>3</td>
</tr>
<tr>
<td>BUS 48 Business Law OR</td>
<td></td>
</tr>
<tr>
<td>BUS 49 Law and Society</td>
<td>3</td>
</tr>
<tr>
<td>BUS 100 Management Concepts and Applications</td>
<td>3</td>
</tr>
<tr>
<td>BUS 102 Management Communications</td>
<td>3</td>
</tr>
<tr>
<td>BUS 112 Employment Law for Supervisors</td>
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</tr>
<tr>
<td>BUS 140 Small Business Management</td>
<td>3</td>
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</table>

PLUS 3 ADDITIONAL UNITS FROM:

<table>
<thead>
<tr>
<th>COURSE</th>
<th>UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS 55 International Business Practices</td>
<td>3</td>
</tr>
<tr>
<td>BUS 101 Personal Money Management</td>
<td>3</td>
</tr>
<tr>
<td>BUS 105 The New Supervisor</td>
<td></td>
</tr>
<tr>
<td>BUS 106 Conducting Effective Interviews</td>
<td>1</td>
</tr>
<tr>
<td>BUS 107 Coaching and Motivating Employees</td>
<td>1</td>
</tr>
<tr>
<td>BUS 108 Managing Workplace Conflict</td>
<td>1</td>
</tr>
<tr>
<td>BUS 109 Evaluating Employee Performance</td>
<td>1</td>
</tr>
<tr>
<td>BUS 110 Disciplining Employees</td>
<td>1</td>
</tr>
<tr>
<td>BUS 111 The Supervisor as a Team Leader</td>
<td></td>
</tr>
<tr>
<td>BUS 115 Introduction to Banking</td>
<td>3</td>
</tr>
<tr>
<td>BUS 120 Introduction to Marketing</td>
<td>3</td>
</tr>
<tr>
<td>BUS 150 Business Capstone</td>
<td>3</td>
</tr>
<tr>
<td>CIS 50 Applying Computer Software</td>
<td>3</td>
</tr>
</tbody>
</table>

TOTAL UNITS REQUIRED: 21

RISK MANAGEMENT AND INSURANCE
A.S. DEGREE AND/OR CERTIFICATE
The Risk Management and Insurance Program provides training for students wishing to enter the diverse field of insurance. Students gain a solid foundation to enter and grow within the insurance industry in a wide variety of career positions. These include the job entry level areas of Insurance Sales Agent; Insurance Underwriter; and Claims Adjuster, Examiner, and Investigator. The program also provides an introduction to the Insurance Claims and Policy Processing Clerk position. The field offers great opportunities for those interested in developing their skills and advancing to high level positions. This program was developed by the Business Education Statewide Advising Committee (BESAC) in a collaborative effort with the insurance industry. Students must fulfill major requirements and all associate degree requirements for the A.S. degree; see pages 42-43. A certificate is designed to provide career technical skills; it is not equivalent to an A.A. or A.S. degree.

REQUIRED COURSES

<table>
<thead>
<tr>
<th>COURSE</th>
<th>UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS 1 Financial Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>BUS 20 Introduction to Business</td>
<td>3</td>
</tr>
<tr>
<td>BUS 48 Business Law</td>
<td>3</td>
</tr>
<tr>
<td>BUS 70 Introduction to Risk Management and Insurance</td>
<td>3</td>
</tr>
<tr>
<td>BUS 71 Principles of Property and Liability Insurance</td>
<td>3</td>
</tr>
<tr>
<td>BUS 72 Principles of Personal Insurance</td>
<td>3</td>
</tr>
<tr>
<td>BUS 73 Principles of Commercial Insurance</td>
<td>3</td>
</tr>
<tr>
<td>BUS 74 Insurance Code and Ethics</td>
<td>1</td>
</tr>
<tr>
<td>BUS 86 Written Communication for Business</td>
<td>3</td>
</tr>
<tr>
<td>BUS 95 Internship in Business (in an insurance company)</td>
<td>1-3</td>
</tr>
<tr>
<td>CIS 50 Applying Computer Software</td>
<td>3</td>
</tr>
<tr>
<td>CIS 80 Spreadsheets in a Business Environment</td>
<td>3</td>
</tr>
</tbody>
</table>

TOTAL UNITS REQUIRED: 32-34

Program Advisory: Eligibility for ENGL 1A
Recommended Electives: BUS 100, BUS 120

MARKETING
A.A. OR A.S. DEGREE AND/OR CERTIFICATE
The curriculum in Marketing prepares students for positions as salespersons, business persons, merchandisers, and marketing managers. Students must fulfill major requirements and all associate degree requirements for the A.A./A.S. degree; see pages 42-43. A certificate is designed to provide career technical skills; it is not equivalent to an A.A. or A.S. degree.

REQUIRED COURSES

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>BUS 20 Introduction to Business</td>
<td>3</td>
</tr>
<tr>
<td>BUS 120 Introduction to Marketing</td>
<td>3</td>
</tr>
<tr>
<td>BUS 121 Advertising</td>
<td>3</td>
</tr>
<tr>
<td>BUS 123 Retailing</td>
<td>3</td>
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<tr>
<td>BUS 124 Selling Dynamics</td>
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PLUS 6 ADDITIONAL UNITS FROM:

<table>
<thead>
<tr>
<th>COURSE</th>
<th>UNITS</th>
</tr>
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<tbody>
<tr>
<td>BUS 1 Financial Accounting I</td>
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<tr>
<td>BUS 48 Business Law</td>
<td>3</td>
</tr>
<tr>
<td>BUS 55 International Business Practices</td>
<td>3</td>
</tr>
<tr>
<td>BUS 64 Business Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>BUS 100 Management Concepts and Applications</td>
<td>3</td>
</tr>
<tr>
<td>BUS 115 Introduction to Banking</td>
<td>3</td>
</tr>
<tr>
<td>BUS 122 Marketing in the Digital Age</td>
<td>3</td>
</tr>
<tr>
<td>BUS 150 Business Capstone</td>
<td>3</td>
</tr>
<tr>
<td>CIS 50 Applying Computer Software OR</td>
<td></td>
</tr>
<tr>
<td>CSCI 10 Introduction to Computing</td>
<td>3</td>
</tr>
</tbody>
</table>

TOTAL UNITS REQUIRED: 21

SIERRA COLLEGE CATALOG 2010-2011
SMALL BUSINESS SKILLS CERTIFICATE
Successful completion of the Small Business skills certificate gives students practical skills to start or purchase, and effectively manage a small business. A skills certificate is designed to provide career technical skills; it is not equivalent to an A.A. or A.S. degree.

REQUIRED COURSES:  UNITS
BUS B Accounting and Finance for the Small Business Owner . . 3
BUS 48 Business Law .................................................. 3
BUS 120 Introduction to Marketing ................................. 3
BUS 140 Small Business Management ............................ 3
TOTAL UNITS REQUIRED: 12

Business Courses

BUS A ELEMENTS OF ACCOUNTING
Units: 3
Hours: 54 lecture
An introductory course for students without previous study in bookkeeping or accounting. Provides practical skills for individuals to hold bookkeeping or account clerk positions; also appropriate for business owners, managers, administrative assistants and others needing practical knowledge of basic accounting. Includes basic accounting principles, ownership structures, payroll, internal controls, and financial statement analysis. (not transferable)

BUS B ACCOUNTING AND FINANCE FOR THE SMALL BUSINESS OWNER
Units: 3
Hours: 54 lecture
Practical study of the accounting and financial management methods essential for the efficient operation of small businesses. Provides entrepreneurs with skills to prepare and analyze financial statements, understand the accounting cycle, prepare financial projections and manage cash flow, accounts payable, accounts receivable, accounts payable and inventory. (not transferable)

BUS 1 FINANCIAL ACCOUNTING I
Units: 3
Hours: 54 lecture
Forms of business entities; principles of accounting; accounting cycle; recording transactions; preparing and analyzing financial statements; internal controls; bank reconciliation; petty cash; inventories and cost of goods sold. (CSU, UC)

BUS 2 FINANCIAL ACCOUNTING II
Units: 3
Prerequisite: Completion of BUS 1 or equivalent with grade of “C” or better
Hours: 54 lecture
Accounting principles; receivables; tangible and intangible assets; current and long-term liabilities including bonds; capital stock and treasury stock; analysis of financial statements. (CSU, UC)

BUS 3 MANAGERIAL ACCOUNTING
Units: 3
Prerequisite: Completion of BUS 2 or equivalent with grade of “C” or better
Hours: 54 lecture
Examination of how managers use accounting information in decision-making, planning, directing operations, and controlling operations. Focus on cost terms and concepts, cost behavior, cost structure, and cost-volume-profit analysis. Examination of profit planning, standard costs, operations, and capital budgeting, cost control, and accounting for costs in manufacturing organizations. (CSU)

BUS 8 COMPUTERIZED ACCOUNTING FOR WINDOWS
Units: 3
Prerequisite: Completion of BUS A or BUS 1 or equivalent
Hours: 54 lecture
Introduction to the principles and procedures of accrual accounting using an industry computer accounting program. Accounting applications include general ledger, purchases and accounts payable, sales and accounts receivable, payroll, merchandise inventory, and job costing. Includes completion of the accounting cycle, preparation of financial statements, and analysis of financial statements for service and retail organizations. (not transferable)

BUS 9 FEDERAL INCOME TAXATION OF INDIVIDUALS
Units: 3
Hours: 54 lecture
Rights and responsibilities of taxpayers under the Internal Revenue Code. Introduction to filing status, exemptions, income exclusions and inclusions, capital gains/losses, itemized deductions, employee business expenses, sale of home, and tax planning. (CSU)

BUS 19 INVESTMENTS
Units: 3
Hours: 54 lecture
An introduction to investment opportunities, principles and practices. Includes investments in government and corporate securities, mutual funds, real estate, and tax advantaged securities. (CSU)

BUS 20 INTRODUCTION TO BUSINESS
Units: 3
Hours: 54 lecture
Fundamentals of function and administration of business entities. Study of ownership and structural forms of business enterprise, promotion and operation, records and accounts, opportunities for employment, and occupational preparation. Aids in selecting a field of business specialization and provides a background for further study. (CSU, UC)
BUS 28 INDEPENDENT STUDY
Units: 1-3
Designed for students interested in furthering their knowledge at an independent study level in an area where no specific curriculum offering is currently available. Independent study might include, but is not limited to, research papers, special subject area projects, and research projects. May be taken four times for credit. See Independent Study page in catalog. (CSU)

BUS 48 BUSINESS LAW
Units: 3
Hours: 54 lecture
The law and its relationship to business with an emphasis on evaluating and managing potential legal and ethical problems. Includes contracts and sales, business torts, employment law, business organizations, and the regulatory environment. (CSU, UC)

BUS 49 LAW AND SOCIETY
Units: 3
Hours: 54 lecture
Introduction to the American legal system, including theoretical and practical perspectives on the relationship of law to individuals and to society. Includes the U.S. Constitution, criminal law system, civil dispute resolution, consumer rights, interpersonal and property rights, and the law of the workplace. (CSU, UC)

BUS 52 CREATING A VIRTUAL OFFICE
Also known as CIS 52
Units: 3
Advisory: Eligibility for ENGL 1A or ESL 40W
Hours: 72 (54 lecture, 18 laboratory)
Introduction to the Virtual industry using technology to work from home—telecommuting. Individuals may choose to work outside of their corporate/business office or may be entrepreneurs who wish to be self-employed. Explores issues to be addressed when creating a virtual office. Topics include managing time, customizing workplace environment, evaluating and buying technology, communicating with technology, and business ethics. (CSU)

BUS 53 MARKETING A VIRTUAL OFFICE
Also known as CIS 53
Units: 3
Advisory: Completion of BUS 52/CIS 52 and CIS 70
Hours: 72 (54 lecture, 18 laboratory)
Introduction to virtual marketing techniques and skills needed to obtain virtual employment positions and clients. Students will identify and evaluate various employment marketing techniques such as networking, conducting virtual interviews, belonging to professional organizations, developing flyers and brochures, developing a professional Internet web site, and using numerous Web-based resources to market skills and services. (CSU)

BUS 54 MANAGING A VIRTUAL OFFICE
Also known as CIS 54
Units: 3
Advisory: Completion of CIS 50, BUS 52/CIS 52, and BUS 53/CIS 53 or equivalent
Hours: 72 (54 lecture, 18 laboratory)
Examines specialized professional administrative concepts and documents used to manage information in the virtual workplace. Organizational concepts, decision making, effective business relationships, time and stress management, business plans, ethics, customer service, and teamwork skills are emphasized. (CSU)

BUS 55 INTERNATIONAL BUSINESS PRACTICES
Units: 3
Advisory: Eligibility for ENGL 1A or equivalent
Hours: 54 lecture
Foundations for understanding the global marketplace and effective international business practices and procedures. Students identify/compare cultural differences and acquire skills necessary for interacting with foreign business professionals. Topics include: international trade, importing/exporting, currencies and exchange, ethics, international travel, technological impacts, and careers in international business. (CSU)

BUS 64 BUSINESS MATHEMATICS
Units: 3
Prerequisite: Placement by matriculation assessment process or completion of MATH 582 with grade of "C" or better or equivalent
Hours: 54 lecture
A practical application of business mathematics, including fractions, decimals, basic algebraic equations, percentages and their application, cash and trade discounts, markups and markdowns, notes and interest, compound interest, and present value. (not transferable)

BUS 70 INTRODUCTION TO RISK MANAGEMENT AND INSURANCE
Units: 3
Advisory: Eligibility for ENGL 1A or equivalent
Hours: 54 lecture
Provides students with a basic background of risk management and insurance, how insurance products and services are distributed to the consumer, how insurance company departments function, how reinsurance is used to create an insurance company, and careers in the insurance industry. (CSU)

BUS 71 PRINCIPLES OF PROPERTY AND LIABILITY INSURANCE
Units: 3
Advisory: Eligibility for ENGL 1A or equivalent
Hours: 54 lecture
Basic information concerning Property and Liability Insurance. Covers fundamentals of insurance including types of insurers, regulations, measurement of financial performance, insurance operations such as marketing, underwriting and claims, insurance contracts, loss exposure, and risk management. (CSU)
BUS 72 PRINCIPLES OF PERSONAL INSURANCE  
Units: 3  
Advisory: Eligibility for ENGL 1A or equivalent  
Hours: 54 lecture  
Fundamentals of personal insurance including automobile, homeowners, fire and earthquake, marine, personal property and liability, financial planning, life and health. (CSU)

BUS 73 PRINCIPLES OF COMMERCIAL INSURANCE  
Units: 3  
Advisory: Eligibility for ENGL 1A or equivalent  
Hours: 54 lecture  
Basic information regarding Commercial Insurance. Covers information concerning the following types of insurance: commercial property, business income, commercial crime, equipment breakdown, inland and ocean marine, commercial general liability, commercial automobile, business owners policies, farm, workers compensation and employers liability. (CSU)

BUS 74 INSURANCE CODE AND ETHICS  
Units: 1  
Hours: 18 lecture  
Designed for insurance majors. Addresses the ethical considerations one must support in order to succeed in business, specifically in the insurance industry. Presents ethical issues with which employees working in insurance offices will be involved. (CSU)

BUS 85 INTRODUCTION TO ORAL COMMUNICATION  
Units: 3  
Advisory: Completion of ENGL A or equivalent with a grade of “C” or better or placement by matriculation assessment process recommended  
Hours: 54 lecture  
Introduction to oral communication necessary in workplace and community. Involves verbal/nonverbal techniques, listening skills, group dynamics, interviewing processes, conflict management, research techniques and delivering oral presentations with emphasis on business situations. Build skills through interactive activities in a supportive environment. (CSU)

BUS 86 WRITTEN COMMUNICATION FOR BUSINESS  
Units: 3  
Advisory: Completion of ENGL A, or equivalent with a grade of “C” or better or placement by matriculation assessment process  
Hours: 54 lecture  
Case studies, examples and applications illustrate how business communication concepts are applied in the workplace. Includes understanding today’s digital work environment and its challenges. Presents the latest in communications technology, employment communication and intercultural issues. (CSU)

BUS 95 INTERNSHIP IN BUSINESS  
Units: 0.5-4  
Designed for advanced students to work in an area related to their educational or occupational goal. Provides new on-the-job technical training under the direction of a worksite supervisor, allowing students to expand knowledge and skills in the chosen field. Mandatory orientation session and faculty approval to determine eligibility. Students may earn up to a total of 16 units in internship courses (any course numbered 95 and PDEV 94). (CSU—with unit limitation)

BUS 100 MANAGEMENT CONCEPTS AND APPLICATIONS  
Units: 3  
Hours: 54 lecture  
Foundation course that explores supervision concepts with a contemporary perspective. Includes the four management functions of planning, controlling, leading, and organizing, with emphasis on practical application of skills in communication, leadership, decision-making, staffing, motivation, delegation, and team-building to supervise others. Students are given opportunities to apply newly acquired ideas and techniques to workplace situations. (CSU)

BUS 101 PERSONAL MONEY MANAGEMENT  
Units: 3  
Hours: 54 lecture  
Practical approach to personal finance principles. Offers a basic understanding of spending, saving, budgeting, borrowing, lending and investing money; credit and debit cards, credit reports/scores, identity theft, insurance, compound interest, retirement and investments. Students will create a personal financial plan, including goals, budgets and a savings plan. (CSU)

BUS 102 MANAGEMENT COMMUNICATIONS  
Units: 3  
Hours: 54 lecture  
Written and oral communication principles and techniques for business management. Organizing and writing business correspondence for internal and external use. Practice in impromptu speaking, training presentations, interviewing and listening. Includes meeting management techniques. (CSU)

BUS 105 THE NEW SUPERVISOR  
Units: 1  
Hours: 18 lecture  
Opportunities and challenges of becoming a new supervisor; contemporary roles of the supervisor; skills, functions, and activities of management; importance of organizational culture; managing change; and personal management skills. (not transferable)
BUS 106 CONDUCTING EFFECTIVE INTERVIEWS
Units: 1
Hours: 18 lecture
Overview of recruitment and selection processes organizations use to screen and select applicants for employment. Job analysis, oral interviews, and specific strategies for hiring. (not transferable)

BUS 107 COACHING AND MOTIVATING EMPLOYEES
Units: 1
Hours: 18 lecture
Motivational work environments and why such environments are important for productivity. Concepts include coaching, goal setting and unmotivated employees. Practical approaches used by organizations. (not transferable)

BUS 108 MANAGING WORKPLACE CONFLICT
Units: 1
Hours: 18 lecture
Nature, causes, and levels of conflict in the workplace. Practical techniques for detecting, understanding, and resolving or managing conflict in positive ways; reactive and proactive solutions; conflict orientations and situations appropriate to their use; collaborative problem solving. (not transferable)

BUS 109 EVALUATING EMPLOYEE PERFORMANCE
Units: 1
Hours: 18 lecture
Supervisor's role in preparing and conducting performance evaluations, formal and informal approaches, common methods, effective performance discussions and employee development. (not transferable)

BUS 110 DISCIPLINING EMPLOYEES
Units: 1
Hours: 18 lecture
Supervisor's role in performance counseling and discipline. Appropriate procedures for progressive discipline. Applying discipline principles including conducting investigations and writing documentation. (not transferable)

BUS 111 THE SUPERVISOR AS A TEAM LEADER
Units: 1
Hours: 18 lecture
Team approaches for working toward organizational goals through effective leadership. Includes leadership principles, roles and behaviors of team development, and work processes that encourage team oriented work. (not transferable)

BUS 112 EMPLOYMENT LAW FOR SUPERVISORS
Units: 1
Advisory: Completion of BUS 100 with a grade of "C" or better or equivalent recommended
Hours: 18 lecture
Introduction to the employment rights and responsibilities of employers and employees in all sectors of the economy. Includes legal aspects of hiring, discrimination, wage and hour, benefits, and health and safety. (not transferable)

BUS 115 INTRODUCTION TO BANKING
Units: 3
Hours: 54 lecture
Practical approach to understanding banking operations and principles. Covers basic concepts of financial regulation, the U.S. banking system, money, deposit accounts, the check payment system, electronic banking, lending, bank performance, product sales, and safeguarding of customer information. (CSU)

BUS 120 INTRODUCTION TO MARKETING
Units: 3
Hours: 54 lecture
The fundamental concepts, relationships, and structure necessary for an overall understanding of the field of marketing. Includes identifying and selecting target markets, understanding consumer behavior, and making product, pricing, distribution, and promotion decisions. (CSU)

BUS 121 ADVERTISING
Units: 3
Hours: 54 lecture
Principles and practices of effective advertising. Marketing research, consumer behavior, target marketing, and media strategy are examined as tools for effective advertising. Creative methods and strategies are examined for the development of various types of advertising. (CSU)

BUS 122 MARKETING IN THE DIGITAL AGE
Units: 3
Advisory: Completion of BUS 120 and CIS 37 with grades of "C" or better or equivalent
Hours: 54 lecture
Exploration, analysis and development of effective marketing techniques using the tools available in an evolving world of technology and digital information. Emphasis on marketing on the internet and using the latest technological tools to enhance marketing efforts. (CSU)

BUS 123 RETAILING
Units: 3
Hours: 54 lecture
Concepts and principles involved in making decisions for retail firms. Sales methods, customer relations, store organization, principles of pricing, visual merchandising, buying and advertising will be covered. Brick and mortar stores, catalogs, home shopping networks, and E-retailing will be examined. (CSU)
BUS 124 SELLING DYNAMICS
Units: 3
Hours: 54 lecture
Introduction to communication skills and practical techniques needed in professional selling. Emphasizes the history, career, rewards, and duties of a professional sales consultant. Illustrates the importance of the sales function to the organization's success. Examines the social, ethical, and legal issues of selling. (CSU)

BUS 140 SMALL BUSINESS MANAGEMENT
Units: 3
Hours: 54 lecture
Practical aspects of starting, buying and managing a small business. Focus on home-based, service, “bricks and mortar,” and e-businesses; forms of ownership, franchising, and preparing a business plan; financing a business; accounting and marketing fundamentals; managing human resources, technology, and insurance. (CSU)

BUS 150 BUSINESS CAPSTONE
Units: 3
Prerequisite: Completion of one of the following courses with grade of “C” or better: BUS 2, 48, 102, 120, 140, or equivalent
Advisory: Completion of four or more required courses from a business degree or certificate program with a GPA of 3.0 or higher
Hours: 54 lecture
Integration and application of acquired knowledge to real world business problems. Students work in cross-functional groups (accounting, management, marketing, etc.) and utilize problem-solving principles and techniques to evaluate business case studies. Students explore employment and academic opportunities; development of communication, teamwork, leadership, and analytical skills vital to career success. Includes guest speakers and field trips to business, nonprofit and/or governmental organizations. Capstone course intended for students who have taken several business courses and will soon complete their studies. (CSU)

BUS 300 SELECTED TOPICS IN BUSINESS
Units: 0.5-4
Courses of study will cover topics relevant to the discipline. Topics will vary. Course content and unit credit to be determined by the division. May be offered as seminar, lecture, or lecture/laboratory classes. Students may repeat “300” courses within a discipline only when a topic is different from previously completed course. See Selected Topics page in catalog. (CSU)

BUS 400 SELECTED TOPICS IN BUSINESS
Units: 0.5-4
Courses of study will cover topics relevant to the discipline. Topics will vary. Course content and unit credit to be determined by the division. May be offered as seminar, lecture, or lecture/laboratory classes. Students may repeat “400” courses within a discipline only when a topic is different from previously completed course. See Selected Topics page in catalog. (not transferable)

BUS 809 PERSONAL INVESTMENT AND RETIREMENT PLANNING FOR RETIREES
Units: 0
Hours: 8 lecture
How to best manage investments during retirement; includes generating both income and growth for investments, fixed income, stocks, mutual funds, and annuities. May be repeated. (noncredit)

BUS 810 RESOLVING LEGAL DISPUTES
Units: 0
Hours: 8 to 18 lecture as scheduled
An overview of legal questions that directly affect the older adult in everyday life. A problem solving approach to help resolve disputes without hiring a lawyer. The most current information on estate planning and elder law. May be repeated. (noncredit)

Chemistry

SCIENCES & MATHEMATICS
DEAN: Heather Roberts
ASSOCIATE DEAN: Michael Kane
DIVISION OFFICE: V 211
FACULTY: M. Brelle, D. Burns, F. Cardoza, K. Clemens, P. Gamel, J. Giuliani, M. Springsteel, B. Vanderbout
liaison Counselors: B. Hawkes, T. Maddux, S. Muraki

The Chemistry program at Sierra College is designed to meet the needs of the diverse community of interests served by the community college. A full program of chemistry for the professional scientist is offered through analytical chemistry and a two-semester course in organic chemistry. A separate track is offered for nursing students that presents general inorganic, organic, and biochemistry in a one-year sequence. The Chemistry Department also has a strong commitment to the student with no prior chemistry, or to those whose background is weak.

The entire program is taught with a strong emphasis on the laboratory. In the more advanced classes, students receive hands-on experience with a wide variety of instruments.

TRANSFER MAJOR REQUIREMENTS in Chemistry are available in the Counseling Center. In all cases, students should consult with a counselor for specific transfer requirements. Four-year graduates in Chemistry are qualified for positions in research, industry, education, engineering, and the allied medical fields.
Chemistry Course Progression
CHEMISTRY
A.S. DEGREE
The Chemistry major recognizes a concentration in the field of Chemistry. Successful completion of the curriculum in Chemistry and the associated electives prepare Chemistry students for transfer to four-year colleges or universities. Students must fulfill major requirements and all associate degree requirements for the A.S. degree; see pages 42-43.

REQUIRED COURSES
CHEM 1A General Chemistry OR
CHEM 3A-3B General Chemistry. ............................. 5-6
CHEM 1B General Chemistry. .......................... 5
CHEM 5 Quantitative Analysis. .............................. 4
CHEM 12A Organic Chemistry. ............................. 5
CHEM 12B Organic Chemistry. ............................. 5
TOTAL UNITS REQUIRED: 24-25
Recommended Electives:
MATH 30, 31, 32, PHYS 4A, 4B, 4C

Chemistry Courses
CHEM A FOUNDATIONS OF COLLEGE CHEMISTRY
Units: 4
Prerequisite: First year high school algebra or MATH A or equivalent with a grade of “C” or better; eligibility for ENGL 50 or ENGL N
Advisory: Eligibility for ENGL 1A
Hours: 108 (54 lecture, 54 laboratory)
A nontransferable course primarily intended to prepare students for general college chemistry. Includes a brief review of math operations important in chemistry, metric system, formulas, equations, gas laws, and solutions through related lecture and laboratory exercises. (not transferable)

CHEM 1A GENERAL CHEMISTRY
Units: 5
Prerequisite: High school chemistry or CHEM A or equivalent and second year high school algebra or MATH D or equivalent with a grade of “C” or better
Advisory: Completion of ENGL 50, or eligibility for ENGL 11, or equivalent strongly recommended
Hours: 162 (54 lecture, 108 laboratory)
Introduction to the general principles of chemistry with emphasis upon quantitative relationships. Properties of matter related whenever possible to present concepts of atomic structure and to the periodic table. Includes atomic structure, the mole concept, gas laws, stoichiometry, redox, acid-base theory, equilibrium, and an introduction to modern theories of chemical bonding through related lecture and laboratory exercises. Students enrolling in CHEM 1A after having completed CHEM 3A will lose credit for CHEM 3A. Note: Not open to students who have completed CHEM 3B. CHEM 1A/1B sequence may be started any semester. (CSU, UC—with unit limitation)

CHEM 1B GENERAL CHEMISTRY
Units: 5
Prerequisite: CHEM 1A or CHEM 3B or equivalent with a grade of “C” or better
Advisory: Completion of ENGL 50, or eligibility for ENGL 11, or equivalent strongly recommended
Hours: 162 (54 lecture, 108 laboratory)
A continuation of CHEM 1A. Includes modern theories of bonding, thermodynamics, electro-chemistry, nuclear chemistry, chemical kinetics, and a brief introduction to organic and biochemistry through related lecture and laboratory exercises. Note: CHEM 1A/1B sequence may be started any semester. (CSU, UC—with unit limitation)

CHEM 1X CHEMISTRY 1A PROBLEM SOLVING
Units: 1
Corequisite: Concurrent enrollment in CHEM 1A
Hours: 18 lecture
Optional problem solving course to accompany CHEM 1A. May be taken once for credit. (CSU)

CHEM 1Y CHEMISTRY 1B PROBLEM SOLVING
Units: 1
Corequisite: Concurrent enrollment in CHEM 1B
Hours: 18 lecture
Optional problem solving course to accompany CHEM 1B. May be taken once for credit. (CSU)

CHEM 2A INTRODUCTION TO CHEMISTRY
Units: 5
Prerequisite: Completion of one year high school algebra or MATH A or equivalent with a grade of “C” or better
Advisory: Eligibility for ENGL 1A; completion of CHEM A or equivalent with a grade of “C” or better
Hours: 162 (54 lecture, 108 laboratory)
Designed to meet the requirements for certain nursing, dental hygiene, physical therapy, home economics, agriculture, and forestry programs (Inorganic Chemistry). An introduction to the fundamental principles of general inorganic chemistry through related lecture and laboratory exercises. (CSU, UC—with unit limitation)

CHEM 2B INTRODUCTION TO CHEMISTRY
Units: 5
Prerequisite: Completion of CHEM 2A with a grade of “C” or better
Advisory: Eligibility for ENGL 1A
Hours: 162 (54 lecture, 108 laboratory)
Designed to meet the requirements for certain nursing, dental hygiene, physical therapy, home economics, agriculture, and forestry programs (Organic and Biochemistry). A study of the major classes of organic compounds, including nomenclature structure, properties, and isomerism. Emphasizes the chemistry and metabolism of carbohydrates, lipids, and proteins, including nucleo-protein and enzymes through related lecture and laboratory exercises. (CSU, UC—with unit limitation)
**CHEM 2X CHEMISTRY 2A PROBLEM SOLVING**
Units: 1  
Corequisite: Concurrent enrollment in CHEM 2A  
Hours: 18 lecture  
Optional problem solving course to accompany CHEM 2A. May be taken 1 time for credit. (CSU)

**CHEM 2Y CHEMISTRY 2B PROBLEM SOLVING**
Units: 1  
Corequisite: Concurrent enrollment in CHEM 2B  
Hours: 18 lecture  
Optional problem solving course to accompany CHEM 2B. Students use critical thinking and problem solving strategies to solve general chemistry problems. Both lecture and discussion groups utilized. May be taken 1 time for credit. (CSU)

**CHEM 3A GENERAL CHEMISTRY**
Units: 3  
Prerequisite: Second year high school algebra or MATH D or equivalent with a grade of “C” or better  
Corequisite: Concurrent enrollment in CHEM 3X  
Advisory: Completion of ENGL 50, or eligibility for ENGL 11, or equivalent strongly recommended  
Hours: 90 (36 lecture, 54 laboratory)  
The first semester of a two-semester course in general chemistry consisting of that material normally included in one semester of CHEM 1A. This sequence fulfills the prerequisite for CHEM 1B. Students enrolling in CHEM 1A after having taken CHEM 3A will lose credit for CHEM 3A. (CSU, UC— with unit limitation)

**CHEM 3B GENERAL CHEMISTRY**
Units: 3  
Prerequisite: CHEM 3A with a grade of “C” or better  
Corequisite: Concurrent enrollment in CHEM 3Y  
Advisory: Completion of ENGL 50, or eligibility for ENGL 11, or equivalent strongly recommended  
Hours: 90 (36 lecture, 54 laboratory)  
The second semester of a two-semester course in general chemistry consisting of that material normally included in one semester of CHEM 1A. This sequence fulfills the prerequisite for CHEM 1B. (CSU, UC— with unit limitation)

**CHEM 3X CHEMISTRY 3A PROBLEM SOLVING**
Units: 2  
Corequisite: Concurrent enrollment in CHEM 3A  
Hours: 36 lecture  
Problem solving course to accompany CHEM 3A. Students use critical thinking and problem solving strategies to solve general chemistry problems. May be taken one time for credit. (pass/no pass grading) (not transferable)

**CHEM 3Y CHEMISTRY 3B PROBLEM SOLVING**
Units: 2  
Corequisite: Concurrent enrollment in CHEM 3B  
Hours: 36 lecture  
Problem solving course to accompany CHEM 3B. Students use critical thinking and problem solving strategies to solve general chemistry problems. May be taken one time for credit. (pass/no pass grading) (not transferable)

**CHEM 5 CHEMISTRY—QUANTITATIVE ANALYSIS**
Units: 4  
Prerequisite: CHEM 1B or equivalent with a grade of “C” or better  
Advisory: Completion of ENGL 50, or eligibility for ENGL 11, or equivalent strongly recommended  
Hours: 144 (36 lecture, 108 laboratory)  
Theory and techniques of quantitative chemical measurement, including gravimetric, volumetric, and introductory instrumental analysis. Required for all chemistry, chemical engineering, medicine, dentistry, veterinary medicine, and related majors. (CSU, UC)

**CHEM 12A ORGANIC CHEMISTRY**
Units: 5  
Prerequisite: Completion of CHEM 1B or equivalent with a grade of “C” or better  
Advisory: Completion of ENGL 50, or eligibility for ENGL 11, or equivalent strongly recommended  
Hours: 162 (54 lecture, 108 laboratory)  
An extensive course in the chemistry of the compounds of carbon, which emphasizes structure, kinetics, thermodynamics, spectroscopy, and synthesis. The laboratory provides direct experience with the reaction, synthesis, purification, identification, and characterization (IR, GC, TLC, bp, mp, chemical tests) of organic compounds. Discussions about the emerging field of “Green Chemistry” and performance of Green Chemistry experiments in the laboratory. Required for majors in chemistry as well as many other related fields. (CSU, UC)

**CHEM 12B ORGANIC CHEMISTRY**
Units: 5  
Prerequisite: Completion of CHEM 12A or equivalent with a grade of “C” or better  
Advisory: Completion of ENGL 50, or eligibility for ENGL 11, or equivalent strongly recommended  
Hours: 162 (54 lecture, 108 laboratory)  
Focuses on carbon based molecules and emphasizes structure, kinetics, thermodynamics, spectroscopy, and synthesis. Includes the emerging field of “Green Chemistry.” Required for majors in Chemistry as well as many other related fields. (CSU, UC)
CHEM 28 INDEPENDENT STUDY
Units: 1-3
Designed for students interested in furthering their knowledge at an independent study level in an area where no specific curriculum offering is currently available. Independent study might include, but is not limited to, research papers, special subject area projects, and research projects. May be taken four times for credit. See Independent Study page in catalog. (CSU, UC—with unit limitation)

CHEM 95 INTERNSHIP IN CHEMISTRY
Units: 0.5-4
Designed for advanced students to work in an area related to their educational or occupational goal. Provides new on-the-job technical training under the direction of a worksite supervisor, allowing students to expand knowledge and skills in the chosen field. Mandatory orientation session and faculty approval to determine eligibility. Students may earn up to a total of 16 units in internship courses (any course numbered 95 and PDEV 94). (CSU—with unit limitation)

Communication Studies

LIBERAL ARTS
DEAN: Debra Sutphen
ASSOCIATE DEAN: Rebecca Bocchicchio
DIVISION OFFICE: W 107
FACULTY: B. Battenberg, J. Bruno, D. DeFoe, M. Williams
LIAISON COUNSELORS: M. Moon, V. Rogers

The Communication Studies program provides an inquiry into the problems and circumstances involved with the sharing and exchange of information and ideas between and among individuals and societies. Communication Studies offers training and skills accepted as necessary for success in public and private life. A broadly based discipline, Communication Studies includes public speaking, interpersonal and group communication, broadcast communication, journalism, graphic design, photography, and multimedia.

Students may transfer as Communication Studies majors to the university level and/or use their background as an introduction to such careers as journalist, broadcast journalist, public information specialist, media researcher, public opinion analyst, script writer, reporter, editor of video, film or print media, governmental staff position, graphic designer, photographer, and multimedia designer.

COMMUNICATION STUDIES—
GENERAL CONCENTRATION
A.A. OR A.S. DEGREE
(FORMERLY COMMUNICATION STUDIES—ORAL CONCENTRATION)
The A.A./A.S. degree in Communication Studies, General Concentration requires 27-28 units in the major. Students must fulfill major requirements and all associate degree requirements for the A.A./A.S. degree; see pages 42-43.

REQUIRED COURSES

<table>
<thead>
<tr>
<th>UNITS</th>
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</thead>
<tbody>
<tr>
<td>COMM 1 Fundamentals of Public Speaking</td>
</tr>
<tr>
<td>COMM 2 Argumentation</td>
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<tr>
<td>COMM 3 Group Communication</td>
</tr>
<tr>
<td>COMM 95 Internship in Communication Studies</td>
</tr>
<tr>
<td>COM 30 Writing for Media OR</td>
</tr>
<tr>
<td>ENGL 12 Writing in the Workplace OR</td>
</tr>
<tr>
<td>JRNL 20A Introduction to Journalism</td>
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</table>

PLUS 9-10 ADDITIONAL UNITS FROM:

<table>
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<tr>
<th>UNITS</th>
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<tbody>
<tr>
<td>COMM 7 Inter-cultural Communication</td>
</tr>
<tr>
<td>COMM 10 Survey of Communication Studies</td>
</tr>
<tr>
<td>COMM 12 Visual Communication (also AAD 12)</td>
</tr>
<tr>
<td>COMM 20 Broadcast Presentation</td>
</tr>
<tr>
<td>COMM 28 Independent Study</td>
</tr>
<tr>
<td>COMM 95 Internship in Communication Studies</td>
</tr>
<tr>
<td>CIS 100 Software for Dynamic Presentations</td>
</tr>
<tr>
<td>DRMA 10A Fundamentals of Acting OR</td>
</tr>
<tr>
<td>DRMA 108 Advanced Acting</td>
</tr>
</tbody>
</table>

TOTAL UNITS REQUIRED: 27-28

COMMUNICATION STUDIES—
GRAPHIC DESIGN CONCENTRATION
A.A. OR A.S. DEGREE

The A.A./A.S. degree in Communication Studies, Graphic Design Concentration requires 26-27 units in the major. Students must fulfill major requirements and all associate degree requirements for the A.A./A.S. degree; see pages 42-43.

REQUIRED COURSES

21 UNITS FROM THE FOLLOWING CORE:

<table>
<thead>
<tr>
<th>UNITS</th>
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<tbody>
<tr>
<td>COMM 1 Fundamentals of Public Speaking OR</td>
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<tr>
<td>COMM 5 Communication Experience</td>
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<tr>
<td>COMM 12 Visual Communication (also AAD 12)</td>
</tr>
<tr>
<td>COMM 15 Mass Media and Society</td>
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<tr>
<td>BUS 86 Written Communications for Business OR</td>
</tr>
<tr>
<td>COMM 30 Writing for Media OR</td>
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<tr>
<td>ENGL 12 Writing in the Workplace OR</td>
</tr>
<tr>
<td>JRNL 20A Introduction to Journalism</td>
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<tr>
<td>AAD 52 Publication Design I</td>
</tr>
<tr>
<td>AAD 60 Graphic Design: Principles &amp; Process</td>
</tr>
<tr>
<td>AAD 62 Graphic Computer Illustration</td>
</tr>
<tr>
<td>AAD 75 Introduction to Digital Imaging (also PHOT 75)</td>
</tr>
</tbody>
</table>
### COMMUNICATION STUDIES—MULTIMEDIA CONCENTRATION
#### A.A. OR A.S. DEGREE

The A.A./A.S. degree in Communication Studies, Multimedia Concentration requires 27-29 units in the major. Students must fulfill major requirements and all associate degree requirements for the A.A./A.S. degree; see pages 42-43.

### REQUIRED COURSES

#### 22-23 UNITS FROM THE FOLLOWING CORE: UNITS

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Units</th>
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<tbody>
<tr>
<td>COMM 1 Fundamentals of Public Speaking OR</td>
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<tr>
<td>COMM 5 Communication Experience</td>
<td>3</td>
</tr>
<tr>
<td>COMM 12 Visual Communication (also AAD 12)</td>
<td>3</td>
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<tr>
<td>COMM 15 Mass Media and Society</td>
<td>3</td>
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<tr>
<td>BUS 86 Written Communication for Business OR</td>
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<tr>
<td>COMM 30 Writing for Media OR</td>
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<tr>
<td>ENGL 12 Writing in the Workplace OR</td>
<td></td>
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<tr>
<td>JRNL 20A Introduction to Journalism</td>
<td>3</td>
</tr>
<tr>
<td>COMM 31A Introduction to Video Production (also AAD 79)</td>
<td>3</td>
</tr>
<tr>
<td>AAD 80 Introduction to Video Editing</td>
<td>4</td>
</tr>
<tr>
<td>AAD 85 Introduction to Web Design</td>
<td>3</td>
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<tr>
<td>AAD 90 Interactive Multimedia Production</td>
<td>4</td>
</tr>
</tbody>
</table>

### PLUS 5-6 UNITS FROM THE FOLLOWING, OR UNUSED COURSES FROM THE PRECEDING REQUIREMENTS:

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>AAD 28 Independent Study OR</td>
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<tr>
<td>COMM 28 Independent Study</td>
<td>1-3</td>
</tr>
<tr>
<td>AAD 65 Capturing Digital Images</td>
<td>1</td>
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<tr>
<td>AAD 70 Introduction to Digital Art and Design OR</td>
<td></td>
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<tr>
<td>AAD 75 Introduction to Digital Imaging (also PHOT 75)</td>
<td>3</td>
</tr>
<tr>
<td>COMM 10 Survey of Communication Studies</td>
<td>3</td>
</tr>
<tr>
<td>COMM 20 Broadcast Presentation</td>
<td>3</td>
</tr>
<tr>
<td>AAD 95 Internship in Applied Art &amp; Design OR</td>
<td></td>
</tr>
<tr>
<td>COMM 95 Internship in Communication Studies</td>
<td>5-4</td>
</tr>
</tbody>
</table>

**TOTAL UNITS REQUIRED: 27-29**

### COMMUNICATION STUDIES—PHOTOGRAPHY CONCENTRATION
#### A.A. OR A.S. DEGREE

The A.A./A.S. degree in Communication Studies, Photography Concentration requires 27-29 units in the major. Students must fulfill major requirements and all associate degree requirements for the A.A./A.S. degree; see pages 42-43.

### REQUIRED COURSES

#### 21-22 UNITS FROM THE FOLLOWING CORE: UNITS

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Units</th>
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<tbody>
<tr>
<td>COMM 1 Fundamentals of Public Speaking OR</td>
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<tr>
<td>COMM 5 Communication Experience</td>
<td>3</td>
</tr>
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<td>COMM 12 Visual Communication (also AAD 12)</td>
<td>3</td>
</tr>
<tr>
<td>COMM 15 Mass Media and Society</td>
<td>3</td>
</tr>
<tr>
<td>BUS 86 Written Communication for Business OR</td>
<td></td>
</tr>
<tr>
<td>COMM 30 Writing for Media OR</td>
<td></td>
</tr>
<tr>
<td>ENGL 12 Writing in the Workplace OR</td>
<td></td>
</tr>
<tr>
<td>JRNL 20A Introduction to Journalism</td>
<td>3</td>
</tr>
<tr>
<td>PHOT 65 Documentary Photography</td>
<td>2</td>
</tr>
<tr>
<td>PHOT 70A Advanced Photography</td>
<td>3</td>
</tr>
<tr>
<td>PHOT 75 Introduction to Digital Imaging (also AAD 75)</td>
<td>3</td>
</tr>
<tr>
<td>PHOT 80 Basic Color Photography</td>
<td>2</td>
</tr>
<tr>
<td>PHOT 85 Photojournalism</td>
<td>2</td>
</tr>
</tbody>
</table>

### PLUS 6-7 UNITS FROM THE FOLLOWING, OR UNUSED COURSES FROM THE PRECEDING REQUIREMENTS:

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>AAD 20 Portfolio Development &amp; Presentation</td>
<td>2</td>
</tr>
<tr>
<td>AAD 65 Capturing Digital Images</td>
<td>1</td>
</tr>
<tr>
<td>AAD 70 Internship in Applied Art &amp; Design OR</td>
<td></td>
</tr>
<tr>
<td>COMM 28 Independent Study</td>
<td>1-3</td>
</tr>
<tr>
<td>PHOT 30 Photographing Works of Art (also AAD 30)</td>
<td>5</td>
</tr>
<tr>
<td>PHOT 60A Elementary Photography</td>
<td>3</td>
</tr>
<tr>
<td>PHOT 60B Intermediate Photography</td>
<td>3</td>
</tr>
<tr>
<td>PHOT 88 Business Practices for Photographers</td>
<td>3</td>
</tr>
<tr>
<td>AAD 95 Internship in Photography OR</td>
<td></td>
</tr>
<tr>
<td>COMM 95 Internship in Communication Studies</td>
<td>5-4</td>
</tr>
</tbody>
</table>

**TOTAL UNITS REQUIRED: 27-29**

### Communication Studies Courses

#### COMM 1 FUNDAMENTALS OF PUBLIC SPEAKING

**Units:** 3  
**Prerequisite:** Eligibility for ENGL 50 or ENGL N  
**Advisory:** Eligibility for ENGL 1A or ESL 40W  
**Hours:** 54 lecture  
An introduction to essential principles and skills of public speaking: preparing, presenting, and critiquing several speech types, particularly informative and persuasive speeches—with emphasis on the selection and organization of supporting material, reasoning, audience adaptation, persuasive strategies and elements of delivery. Formal written outlines are required for all major speeches. (CSU, UC—with unit limitation)
COMM 2 ARGUMENTATION
Units: 3
Prerequisite: Eligibility for ENGL 1A or ESL 40W
Hours: 54 lecture
A course in argumentation theory and practice including critical evaluation of claims, research, evidence, reasoning, refutation, and rebuttal. Basic principles of argument structure and case building are applied, both in written and oral form, in a variety of problem solving and debate situations. (CSU, UC)

COMM 3 GROUP COMMUNICATION
Units: 3
Advisory: Eligibility for ENGL 1A or ESL 40W
Hours: 54 lecture
Theory and practice in small group communication. Topics include dynamics of the small group communication process, individual accountability in groups, problem solving, conflict management, leadership, creative and critical thinking. Requires group and individual presentations and typed outlines. (CSU, UC)

COMM 5 COMMUNICATION EXPERIENCE
Units: 3
Advisory: Eligibility for ENGL 1A or ESL 40W
Hours: 54 lecture
An introduction to concepts and skills needed for effective communication in a variety of contexts. Includes practical experiences in interpersonal, intercultural, and small group communication. Requires classroom public speaking. (CSU, UC—with unit limitation)

COMM 7 INTERCULTURAL COMMUNICATION
Units: 3
Advisory: Completion of ENGL A or equivalent with a grade of “C” or better or placement by matriculation assessment process recommended
Hours: 54 lecture
Research, observation and practice of intercultural communication. Develops the quality of relationships interculturally in academic, work, and personal contexts. Introduces the challenges and rewards of intercultural communication in everyday situations. (CSU, UC)

COMM 8 INTERPERSONAL COMMUNICATION
Units: 3
Advisory: Eligibility for ENGL 1A or ESL 40W
Hours: 54 lecture
An investigation of the principles and theories of interpersonal communication. Analysis of the dynamics of one-on-one communication to improve competence. Areas of study include perception, self-concept, verbal and nonverbal communication, listening, conflict management, and relationship stages. (CSU)

COMM 10 SURVEY OF COMMUNICATION STUDIES
Units: 3
Advisory: Eligibility for ENGL 1A or ESL 40W
Hours: 54 lecture
An introductory survey of the communication field, covering the theoretical study of the development of communication and its interrelationship with society. Includes the history of communication study, communication theory, and an overview of interpersonal, intercultural, small group, public, and organizational communication, as well as how communication takes place through the fine arts and mass media. (CSU, UC)

COMM 12 VISUAL COMMUNICATION
Also known as AAD 12
Units: 3
Hours: 54 lecture
Study of visual communication including design principles, aesthetics, visual perception, non-verbal messages, relationship to verbal communication, audience analysis and persuasion. Historical overview of visual media as well as current trends and technology. (CSU, UC)

COMM 15 MASS MEDIA AND SOCIETY
Units: 3
Advisory: Eligibility for ENGL 1A or ESL 40W
Hours: 54 lecture
Survey of the history and development of mass media, including radio, television, film, print, the Internet and multimedia. Focuses on exploration of mass communication theories, the critical analysis of media messages and the effects of media on the individual and society. Examines the impact of media on culture, social and political discourse, and public policy. (CSU, UC)

COMM 20 BROADCAST PRESENTATION
Units: 3
Hours: 54 lecture
Introductory course in television broadcast production and presentation covering content development and stylistic concerns in the broadcast studio. Emphasis upon the various audio and video techniques of on camera presentation. (CSU)

COMM 28 INDEPENDENT STUDY
Units: 1-3
Designed for students interested in furthering their knowledge at an independent study level in an area where no specific curriculum offering is currently available. Independent study might include, but is not limited to, research papers, special subject area projects, and research projects. May be taken four times for credit. See Independent Study page in catalog. (CSU)
COMM 30 WRITING FOR MEDIA
Units: 3
Advisory: Eligibility for ENGL 1A or ESL 40W
Hours: 54 lecture
An introduction to the styles and formats used in writing for video, radio, television, multimedia, and the Internet. Includes critical analysis and the writing of commercials, public service announcements, news releases, narrative scripts, and informational programming. (CSU)

COMM 31A INTRODUCTION TO VIDEO PRODUCTION
Also known as AAD 79
Units: 3
Hours: 90 (36 lecture, 54 laboratory)
Introduction to principles, techniques and the terminology of video production and post-production. Guided classroom exercises and projects, including pre-production planning, video and audio recording techniques, remote (field) system set-ups and studio set-ups, lighting for single camera video shoots, and basic video editing and output. May be taken two times for credit. (CSU)

COMM 31B BROADCAST STUDIO PRODUCTION
Units: 3
Advisory: Completion of COMM 31A
Hours: 54 lecture
Introduction to the basic elements, procedures and techniques of video production in a studio environment. Emphasis on studio cameras, audio, graphics, floor direction and technical directing. (CSU)

COMM 95 INTERNSHIP IN COMMUNICATION STUDIES
Units: 0.5-4
Designed for advanced students to work in an area related to their educational or occupational goal. Provides new on-the-job technical training under the direction of a worksite supervisor, allowing students to expand knowledge and skills in the chosen field. Mandatory orientation session and faculty approval to determine eligibility. Students may earn up to a total of 16 units in internship courses (any course numbered 95 and PDEV 94). (CSU—with unit limitation)

COMM 300 SELECTED TOPICS IN COMMUNICATION STUDIES
Units: 0.5-4
Courses of study will cover topics relevant to the discipline. Topics will vary. Course content and unit credit to be determined by the division. May be offered as seminar, lecture, or lecture/laboratory classes. Students may repeat “300” courses within a discipline only when a topic is different from previously completed course. See Selected Topics page in catalog. (CSU)

COMM 301 SPEECH FORENSICS
Units: 1-3
Advisory: Eligibility for ENGL 1A or ESL 40W
Hours: 18 lecture (1 unit); 54 lecture (3 units)
Provides training in the principles, forms, and practice of forensic speaking, including informative and persuasive speaking, oral interpretation, and debate. Prepares students for participation in and evaluation of competitive forensic events. Nine hours of forensic outreach activities required. May be taken two times for credit. (CSU)

Computer Information Systems
(Also see Business and Computer Science)

BUSINESS, APPLIED ACADEMICS, & PHYSICAL EDUCATION
DEAN: Luis Sanchez
ASSOCIATE DEAN: Darlene Jackson
DIVISION OFFICE: B 3
FACULTY: D. Bushnell, C. Dunn, P.J. Elson, S. Linthicum, A. Nylander, M. Prinzing
LIAISON COUNSELORS: M. Braga, B. Hawkes, Rebecca Ortega

The Computer Information Systems program prepares students for any occupation that involves computer applications, database, technical and customer support services, web authoring/developing, Internet information researcher/architect, computer technician, network administration, database administration, and upgrading job skills. Some courses prepare students for industry certifications such as CompTIA’s, A+ or Microsoft’s MSCE. The curriculum also provides valuable computer experience and training for students who are enrolled in other disciplines of the College.
COMPUTER INFORMATION SYSTEMS—ADMINISTRATIVE TECHNICAL SUPPORT CONCENTRATION
A.A. OR A.S. DEGREE AND/OR CERTIFICATE
The Administrative Technical Support concentration prepares students for positions as computer applications users, computer applications installers/trainers, and technically oriented administrative personnel. Students must fulfill major requirements and all associate degree requirements for the A.A./A.S. degree; see pages 42-43. A certificate is designed to provide career technical skills; it is not equivalent to an A.A. or A.S. degree.

REQUIRED COURSES

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 50 Applying Computer Software</td>
<td>3</td>
</tr>
<tr>
<td>CIS 65 Networking Fundamentals (also CSCI 65)</td>
<td>3</td>
</tr>
<tr>
<td>CIS 67 Foundations for Creating Web Pages</td>
<td>3</td>
</tr>
<tr>
<td>CIS 70 Word Processing-Beyond the Basics</td>
<td>3</td>
</tr>
<tr>
<td>CIS 80 Spreadsheets in a Business Environment</td>
<td>3</td>
</tr>
<tr>
<td>CIS 90 Database Management</td>
<td>3</td>
</tr>
<tr>
<td>CIS 100 Software for Dynamic Presentations</td>
<td>3</td>
</tr>
<tr>
<td>CIS 105 Microsoft Outlook-Managing Information</td>
<td>3</td>
</tr>
</tbody>
</table>

PLUS 3-4 ADDITIONAL UNITS FROM THE FOLLOWING:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 15 Keyboarding for Computer Users</td>
<td>1</td>
</tr>
<tr>
<td>CIS 45 Computer User Support Concepts</td>
<td>3</td>
</tr>
<tr>
<td>CIS 95 Internship in Computer Information Systems</td>
<td>.5-4</td>
</tr>
<tr>
<td>CIS 115 Software Configuration and Troubleshooting</td>
<td>3</td>
</tr>
<tr>
<td>CIS 120 Creating Business Graphics with Microsoft Publisher</td>
<td>3</td>
</tr>
<tr>
<td>CIS 127 Creating Web Sites</td>
<td>3</td>
</tr>
<tr>
<td>CIS 137 Managing a Successful Web Project</td>
<td>3</td>
</tr>
<tr>
<td>CIS 150 Careers in the Computer Industry</td>
<td>.5</td>
</tr>
</tbody>
</table>

TOTAL UNITS REQUIRED: 27-28

COMPUTER INFORMATION SYSTEMS—COMPUTER SERVICE TECHNOLOGIST CONCENTRATION
A.A. OR A.S. DEGREE AND/OR CERTIFICATE
(Formerly Computer Service Technology-Computer Service Technologist Concentration)
Successful completion of the curriculum in the Computer Service Technologist concentration prepares students for entry-level Information Technology support positions in a number of areas. This concentration also helps prepare students for a number of vendor neutral, industry certification exams, offered through the CompTIA organization. Students must fulfill major requirements and all associate degree requirements for the A.A./A.S. degree; see pages 42-43. A certificate is designed to provide career technical skills; it is not equivalent to an A.A. or A.S. degree.

REQUIRED COURSES

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 26 Preparation for A+ Certification</td>
<td>3</td>
</tr>
<tr>
<td>CIS 50 Applying Computer Software</td>
<td>3</td>
</tr>
<tr>
<td>CIS 65 Networking Fundamentals (also CSCI 65)</td>
<td>3</td>
</tr>
<tr>
<td>MECH 25 Personal Computer Configuration and Repair</td>
<td>4</td>
</tr>
</tbody>
</table>

PLUS 6-7 ADDITIONAL UNITS FROM THE FOLLOWING:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 95 Internship in Computer Information Systems</td>
<td>.5-4</td>
</tr>
<tr>
<td>CIS 115 Software Configuration &amp; Troubleshooting</td>
<td>3</td>
</tr>
<tr>
<td>CIS 141 Installing, Configuring &amp; Administering Microsoft Client OS</td>
<td>3</td>
</tr>
<tr>
<td>CIS 142 Installing, Configuring &amp; Administering a Secure Windows Server</td>
<td>3</td>
</tr>
<tr>
<td>CIS 146 Wireless Networking and Security</td>
<td>3</td>
</tr>
</tbody>
</table>

TOTAL UNITS REQUIRED: 19-20
COMPUTER INFORMATION SYSTEMS—
COMPUTER SUPPORT CONCENTRATION
A.A. OR A.S. DEGREE AND/OR CERTIFICATE
(FORMERLY COMPUTER INFORMATION SYSTEMS—HELP DESK
CONCENTRATION)
The Computer Support concentration provides students with
education in Computer Information Systems with an emphasis in
technical customer support services. Students must fulfill major
requirements and all associate degree requirements for the A.A./
A.S. degree; see pages 42-43. A certificate is designed to provide
career technical skills; it is not equivalent to an A.A. or A.S. degree.

REQUIRED COURSES

<table>
<thead>
<tr>
<th>COURSE</th>
<th>UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 45 Computer User Support Concepts</td>
<td>3</td>
</tr>
<tr>
<td>CIS 50 Applying Computer Software</td>
<td>3</td>
</tr>
<tr>
<td>CIS 65 Networking Fundamentals (also CSCI 65)</td>
<td>3</td>
</tr>
<tr>
<td>CIS 67 Foundations for Creating Web Pages</td>
<td>3</td>
</tr>
<tr>
<td>CIS 105 Microsoft Outlook-Managing Information</td>
<td>3</td>
</tr>
<tr>
<td>CIS 115 Software Configuration and Troubleshooting</td>
<td>3</td>
</tr>
</tbody>
</table>

PLUS 3-4 ADDITIONAL UNITS FROM THE FOLLOWING:

<table>
<thead>
<tr>
<th>COURSE</th>
<th>UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS 85 Introduction to Oral Communication</td>
<td>3</td>
</tr>
<tr>
<td>BUS 100 Management Concepts and Applications</td>
<td>3</td>
</tr>
<tr>
<td>CIS 15 Keyboarding for Computer Users</td>
<td>1</td>
</tr>
<tr>
<td>CIS 80 Spreadsheets in a Business Environment</td>
<td>3</td>
</tr>
<tr>
<td>CIS 90 Database Management</td>
<td>3</td>
</tr>
<tr>
<td>CIS 95 Internship in Computer Information Systems OR</td>
<td></td>
</tr>
<tr>
<td>CIS 28 Independent Study</td>
<td>3</td>
</tr>
<tr>
<td>MECH 25 Personal Computer Configuration and Repair</td>
<td>4</td>
</tr>
</tbody>
</table>

TOTAL UNITS REQUIRED: 21-22

COMPUTER INFORMATION SYSTEMS—
INTERNET CONCENTRATION
A.A. OR A.S. DEGREE AND/OR CERTIFICATE
Successful completion of the Internet concentration prepares
students to develop and use Internet business strategies. Students
must fulfill major requirements and all associate degree require-
ments for the A.A./A.S. degree; see pages 42-43. A certificate is
designed to provide career technical skills; it is not equivalent to
an A.A. or A.S. degree.

REQUIRED COURSES

<table>
<thead>
<tr>
<th>COURSE</th>
<th>UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 50 Applying Computer Software</td>
<td>3</td>
</tr>
<tr>
<td>CIS 67 Foundations for Creating Web Pages</td>
<td>3</td>
</tr>
<tr>
<td>CIS 105 Microsoft Outlook-Managing Information</td>
<td>3</td>
</tr>
<tr>
<td>CIS 127 Creating Web Sites</td>
<td>3</td>
</tr>
<tr>
<td>CIS 137 Managing a Successful Web Project</td>
<td>3</td>
</tr>
<tr>
<td>CSCI 62 Web Programming I</td>
<td>3</td>
</tr>
</tbody>
</table>

PLUS 9 ADDITIONAL UNITS FROM THE FOLLOWING:

<table>
<thead>
<tr>
<th>COURSE</th>
<th>UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSCI 88 Computer Forensics (also ADMJ 88)</td>
<td>3</td>
</tr>
<tr>
<td>CIS 90 Database Management</td>
<td>3</td>
</tr>
<tr>
<td>CIS 95 Internship in Computer Information Systems</td>
<td>5-4</td>
</tr>
<tr>
<td>CIS 115 Software Configuration and Troubleshooting</td>
<td>3</td>
</tr>
<tr>
<td>CIS 135 Project Management Concepts</td>
<td>3</td>
</tr>
<tr>
<td>CIS 136 Project Management Software</td>
<td>3</td>
</tr>
<tr>
<td>CIS 149 Database Administration in a Client/Server Environment</td>
<td>3</td>
</tr>
<tr>
<td>CSCI 52 Introduction to SQL</td>
<td>3</td>
</tr>
</tbody>
</table>

TOTAL UNITS REQUIRED: 24

COMPUTER INFORMATION SYSTEMS—
NETWORKING CONCENTRATION
A.A. OR A.S. DEGREE AND/OR CERTIFICATE
(FORMERLY COMPUTER SERVICE TECHNOLOGY—NETWORKING
CONCENTRATION)
Successful completion of the curriculum in the Networking con-
centration prepares students for positions as network administra-
tors and other network personnel. Many of the courses also help
prepare students for the Microsoft Certification exams needed for
achieving MCSA, MCSE and MCDBA. Students must fulfill major
requirements and all associate degree requirements for the A.A./
A.S. degree; see pages 42-43. A certificate is designed to provide
career technical skills; it is not equivalent to an A.A. or A.S. degree.

REQUIRED COURSES

<table>
<thead>
<tr>
<th>COURSE</th>
<th>UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 65 Networking Fundamentals (also CSCI 65)</td>
<td>3</td>
</tr>
<tr>
<td>CIS 141 Installing, Configuring &amp; Administering Microsoft Client OS</td>
<td>3</td>
</tr>
<tr>
<td>CIS 142 Installing, Configuring &amp; Administering a Secure Windows Server</td>
<td>3</td>
</tr>
<tr>
<td>CIS 143 Managing a Windows Network Environment</td>
<td>3</td>
</tr>
<tr>
<td>CSCI 50 Introduction to UNIX</td>
<td>3</td>
</tr>
</tbody>
</table>

PLUS 3-4 ADDITIONAL UNITS FROM THE FOLLOWING:

<table>
<thead>
<tr>
<th>COURSE</th>
<th>UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 70 Introduction to Digital Art &amp; Design</td>
<td>3</td>
</tr>
<tr>
<td>BUS 122 Marketing in the Digital Age</td>
<td>3</td>
</tr>
<tr>
<td>CIS 15 Keyboarding for Computer Users</td>
<td>1</td>
</tr>
<tr>
<td>CIS 90 Database Management</td>
<td>3</td>
</tr>
<tr>
<td>CIS 100 Software for Dynamic Presentations</td>
<td>3</td>
</tr>
<tr>
<td>CSCI 50 Introduction to UNIX</td>
<td>3</td>
</tr>
<tr>
<td>CSCI 52 Introduction to SQL</td>
<td>3</td>
</tr>
<tr>
<td>CSCI 63 Web Programming II</td>
<td>3</td>
</tr>
</tbody>
</table>

TOTAL UNITS REQUIRED: 21-22
VIRTUAL OFFICE PROFESSIONAL
Successful completion of the Virtual Office Professional concentrations prepare students for starting virtual office businesses, addressing issues of creating, marketing, and managing virtual offices. In addition, students are prepared to assume positions in businesses and industries that utilize administrative support, including executive assistants and office support specialists. Topics include time management, workplace customization, technology evaluation and purchasing, communication through the use of advanced technologies, and business ethics. Students must fulfill major requirements and all associate degree requirements for the A.A./A.S. degree. A certificate is designed to provide career technical skills; it is not equivalent to an A.A. or A.S. degree.

VIRTUAL OFFICE PROFESSIONAL—ADMINISTRATIVE CONCENTRATION
A.A. OR A.S. DEGREE AND/OR CERTIFICATE

REQUIRED COURSES

<table>
<thead>
<tr>
<th>COURSE</th>
<th>UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS 86 Written Communications for Business</td>
<td>3</td>
</tr>
<tr>
<td>BUS 140 Small Business Management</td>
<td>3</td>
</tr>
<tr>
<td>CIS 52 Creating a Virtual Office (also BUS 52)</td>
<td>3</td>
</tr>
<tr>
<td>CIS 53 Marketing a Virtual Office (also BUS 53)</td>
<td>3</td>
</tr>
<tr>
<td>CIS 54 Managing a Virtual Office (also BUS 54)</td>
<td>3</td>
</tr>
<tr>
<td>CIS 70 Word Processing—Beyond the Basics</td>
<td>3</td>
</tr>
<tr>
<td>CIS 95 Internship in Computer Information Systems OR BUS 95 Internship in Business</td>
<td>1-3</td>
</tr>
</tbody>
</table>

PLUS 9 ADDITIONAL UNITS FROM THE FOLLOWING:

<table>
<thead>
<tr>
<th>COURSE</th>
<th>UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS 8 Computerized Accounting for Windows</td>
<td>3</td>
</tr>
<tr>
<td>BUS 55 International Business Practices</td>
<td>3</td>
</tr>
<tr>
<td>BUS 85 Introduction to Oral Communication</td>
<td>3</td>
</tr>
<tr>
<td>BUS 122 Marketing in the Digital Age</td>
<td>3</td>
</tr>
<tr>
<td>CIS 12 Voice Recognition Software</td>
<td>3</td>
</tr>
<tr>
<td>CIS 67 Foundations for Creating Web Pages</td>
<td>3</td>
</tr>
<tr>
<td>CIS 80 Spreadsheets in a Business Environment</td>
<td>3</td>
</tr>
<tr>
<td>CIS 90 Database Management</td>
<td>3</td>
</tr>
<tr>
<td>CIS 100 Software for Dynamic Presentations</td>
<td>3</td>
</tr>
<tr>
<td>CIS 105 Microsoft Outlook-Managing Information</td>
<td>3</td>
</tr>
<tr>
<td>CIS 127 Creating Web Sites</td>
<td>3</td>
</tr>
<tr>
<td>CIS 137 Managing a Successful Web Project</td>
<td>3</td>
</tr>
</tbody>
</table>

TOTAL UNITS REQUIRED: 28-30

It is recommended that the sequence of the three core courses (BUS/CIS 52, 53, 54) be taken in order. Optional courses may be taken in any order.

VIRTUAL OFFICE PROFESSIONAL—TECHNICAL SUPPORT CONCENTRATION
A.A. OR A.S. DEGREE AND/OR CERTIFICATE

REQUIRED COURSES

<table>
<thead>
<tr>
<th>COURSE</th>
<th>UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 52 Creating a Virtual Office (also BUS 52)</td>
<td>3</td>
</tr>
<tr>
<td>CIS 54 Managing a Virtual Office (also BUS 54)</td>
<td>3</td>
</tr>
<tr>
<td>CIS 65 Networking Fundamentals (also CSCI 65)</td>
<td>3</td>
</tr>
<tr>
<td>CIS 95 Internship in Computer Information Systems OR BUS 95 Internship in Business</td>
<td>1-3</td>
</tr>
<tr>
<td>CIS 115 Software Configuration and Troubleshooting</td>
<td>3</td>
</tr>
<tr>
<td>CIS 141 Installing, Configuring &amp; Administering Microsoft Client OS</td>
<td>3</td>
</tr>
<tr>
<td>CIS 142 Installing, Configuring &amp; Administering a Secure Windows Server</td>
<td>3</td>
</tr>
</tbody>
</table>

PLUS 9 ADDITIONAL UNITS FROM THE FOLLOWING:

<table>
<thead>
<tr>
<th>COURSE</th>
<th>UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS B Accounting and Finance for the Small Business Owner</td>
<td>3</td>
</tr>
<tr>
<td>BUS 55 International Business Practices</td>
<td>3</td>
</tr>
<tr>
<td>CIS 45 Computer User Support Concepts</td>
<td>3</td>
</tr>
<tr>
<td>CIS 53 Marketing a Virtual Office (also BUS 53)</td>
<td>3</td>
</tr>
<tr>
<td>CIS 80 Spreadsheets in a Business Environment</td>
<td>3</td>
</tr>
<tr>
<td>CIS 90 Database Management</td>
<td>3</td>
</tr>
<tr>
<td>CIS 105 Microsoft Outlook-Managing Information</td>
<td>3</td>
</tr>
<tr>
<td>CIS 143 Managing a Windows Network Environment</td>
<td>3</td>
</tr>
<tr>
<td>CIS 144 Supporting a Network Infrastructure</td>
<td>3</td>
</tr>
<tr>
<td>CIS 145 Implementing and Administering Directory Services</td>
<td>3</td>
</tr>
<tr>
<td>CIS 146 Wireless Networking and Security</td>
<td>3</td>
</tr>
<tr>
<td>CIS 160 Home Technology Integration</td>
<td>3</td>
</tr>
<tr>
<td>MECH 25 Personal Computer Configuration and Repair</td>
<td>4</td>
</tr>
</tbody>
</table>

TOTAL UNITS REQUIRED: 28-30
VIRTUAL OFFICE PROFESSIONAL—WEB MANAGEMENT CONCENTRATION
A.A. OR A.S. DEGREE AND/OR CERTIFICATE

REQUIRED COURSES

<table>
<thead>
<tr>
<th>COURSE</th>
<th>UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 52 Creating a Virtual Office (also BUS 52)</td>
<td>3</td>
</tr>
<tr>
<td>CIS 53 Marketing a Virtual Office (also BUS 53)</td>
<td>3</td>
</tr>
<tr>
<td>CIS 54 Managing a Virtual Office (also BUS 54)</td>
<td>3</td>
</tr>
<tr>
<td>CIS 67 Foundations for Creating Web Pages</td>
<td>3</td>
</tr>
<tr>
<td>CIS 95 Internship in Computer Information Systems OR BUS 95 Internship in Business</td>
<td>1-3</td>
</tr>
<tr>
<td>CIS 127 Creating Web Sites</td>
<td>3</td>
</tr>
<tr>
<td>CIS 137 Managing a Successful Web Project</td>
<td>3</td>
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</tbody>
</table>

PLUS 9 ADDITIONAL UNITS FROM THE FOLLOWING:

<table>
<thead>
<tr>
<th>COURSE</th>
<th>UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>AAD 60 Graphic Design: Principles and Process</td>
<td>3</td>
</tr>
<tr>
<td>AAD 61 Graphic Design II: Digital Design and Production</td>
<td>3</td>
</tr>
<tr>
<td>AAD 66 Business Practices for the Applied Arts</td>
<td>1</td>
</tr>
<tr>
<td>AAD 85 Introduction to Web Design</td>
<td>3</td>
</tr>
<tr>
<td>BUS 5 Accounting and Finance for the Small Business Owner</td>
<td>3</td>
</tr>
<tr>
<td>BUS 55 International Business Practices</td>
<td>3</td>
</tr>
<tr>
<td>BUS 86 Written Communications for Business</td>
<td>3</td>
</tr>
<tr>
<td>BUS 122 Marketing in the Digital Age</td>
<td>3</td>
</tr>
<tr>
<td>BUS 140 Small Business Management</td>
<td>3</td>
</tr>
<tr>
<td>CIS 50 Applying Computer Software</td>
<td>3</td>
</tr>
<tr>
<td>CIS 70 Word Processing-Beyond the Basics</td>
<td>3</td>
</tr>
<tr>
<td>CIS 90 Database Management</td>
<td>3</td>
</tr>
</tbody>
</table>

TOTAL UNITS REQUIRED: 28-30

It is recommended that the sequence of the three core courses (BUS/CIS 52, 53, 54) be taken in order. Optional courses may be taken in any order.

COMPUTER ESSENTIALS
SKILLS CERTIFICATE

Equips students with the essential Windows personal computer skills required for school or business. Helps prepare students for careers or fields of study that require computer use, such as data entry, clerical support, receptionist, or customer service, and may serve as a foundation for acquiring advanced or specialized computer skills. Appropriate for students seeking retraining. A certificate is designed to provide career technical skills; it is not equivalent to an A.A. or A.S. degree.

REQUIRED COURSES

<table>
<thead>
<tr>
<th>COURSE</th>
<th>UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 5 Computer Keyboarding and Word Processing Basics OR CIS 20 Keyboarding Review and Skill Building</td>
<td>3</td>
</tr>
<tr>
<td>CIS 30 Fundamental Computer Concepts and Applications</td>
<td>3</td>
</tr>
<tr>
<td>CIS 37 Fundamental Internet Techniques &amp; Strategies for College</td>
<td>3</td>
</tr>
<tr>
<td>CIS 45 Computer User Support Concepts</td>
<td>3</td>
</tr>
<tr>
<td>CIS 50 Applying Computer Software</td>
<td>3</td>
</tr>
</tbody>
</table>

TOTAL UNITS REQUIRED: 15

PC CARE
SKILLS CERTIFICATE

Prepares students to perform basic Windows computer setup, care, maintenance, and troubleshooting with focus on personal computers. Addresses needs to understand and maintain computers. A certificate is designed to provide career technical skills; it is not equivalent to an A.A. or A.S. degree.

REQUIRED COURSES

<table>
<thead>
<tr>
<th>COURSE</th>
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<tbody>
<tr>
<td>CIS 65 Networking Fundamentals (also CSCI 65)</td>
<td>3</td>
</tr>
<tr>
<td>CIS 67 Foundations for Creating Web Pages</td>
<td>3</td>
</tr>
<tr>
<td>CIS 115 Software Configuration and Troubleshooting</td>
<td>3</td>
</tr>
<tr>
<td>MECH 25 Personal Computer Configuration and Repair</td>
<td>4</td>
</tr>
</tbody>
</table>

TOTAL UNITS REQUIRED: 13

MICROSOFT OFFICE SPECIALIST—CORE LEVEL
SKILLS CERTIFICATE

Helps students prepare for Core Level Microsoft Office Specialist industry certification exams in Word, Excel, Access, and PowerPoint. Prepares students for advancement in the workplace and builds technical proficiency, comprehension of Office applications, and ability to integrate the Office applications. A certificate is designed to provide career technical skills; it is not equivalent to an A.A. or A.S. degree.

REQUIRED COURSES

<table>
<thead>
<tr>
<th>COURSE</th>
<th>UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 15 Keyboarding for Computer Users</td>
<td>1</td>
</tr>
<tr>
<td>CIS 30 Fundamental Computer Concepts and Applications</td>
<td>3</td>
</tr>
<tr>
<td>CIS 37 Fundamental Internet Techniques and Strategies for College</td>
<td>3</td>
</tr>
<tr>
<td>CIS 50 Applying Computer Software</td>
<td>3</td>
</tr>
</tbody>
</table>

TOTAL UNITS REQUIRED: 10

MICROSOFT OFFICE SPECIALIST—EXPERT LEVEL
SKILLS CERTIFICATE

Helps students prepare for Expert Level Microsoft Office Specialist industry certification exams in Word, Excel, Access, PowerPoint and Outlook. Students will increase technical proficiency and expertise, overall comprehension of Office applications, ability to use advanced features, and ability to integrate the Office applications with other software applications. A certificate is designed to provide career technical skills; it is not equivalent to an A.A. or A.S. degree.

REQUIRED COURSES

<table>
<thead>
<tr>
<th>COURSE</th>
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<tbody>
<tr>
<td>CIS 70 Word Processing-Beyond the Basics</td>
<td>3</td>
</tr>
<tr>
<td>CIS 80 Spreadsheets in a Business Environment</td>
<td>3</td>
</tr>
<tr>
<td>CIS 90 Database Management</td>
<td>3</td>
</tr>
<tr>
<td>CIS 100 Software for Dynamic Presentations</td>
<td>3</td>
</tr>
<tr>
<td>CIS 105 Microsoft Outlook-Managing Information</td>
<td>3</td>
</tr>
</tbody>
</table>

TOTAL UNITS REQUIRED: 15
ONLINE BUSINESS SKILLS CERTIFICATE
For those students who want to build skills surpassing those of the typical Internet user. Prepares students to effectively understand and apply the Internet for upgrading business skills including researching and identifying high quality information, applying advanced online business communication and collaboration tools, and publishing or maintaining Web pages with HTML and/or Web editing software. Helps prepare students for careers as research/reference coordinators, customer service coordinators, and Internet content coordinators, as well as for educational advancement. A certificate is designed to provide career technical skills; it is not equivalent to an A.A. or A.S. degree.

REQUIRED COURSES
CIS 37 Fundamental Internet Techniques & Strategies for College 3
CIS 67 Foundations for Creating Web Pages 3
CIS 105 Microsoft Outlook-Managing Information 3
CIS 137 Managing a Successful Web Project 3
TOTAL UNITS REQUIRED: 12

WEB SITE PRODUCTION SKILLS CERTIFICATE
Helps prepare students for positions as a Web site producer or production assistant. This certificate features practical business experience in the form of an internship. Students will learn to assist in the production and management of new Web projects and site re-designs. Strategize small business Web projects from initial idea through planning, design, implementation, promotion and maintenance. A certificate is designed to provide career technical skills; it is not equivalent to an A.A. or A.S. degree.

REQUIRED COURSES
UNITS
AAD 90 Interactive Multimedia Production 4
AAD 95 Internship in Applied Art and Design OR
CIS 95 Internship in Computer Information Systems 3
CIS 127 Creating Web Sites 3
CIS 137 Managing a Successful Web Project 3
TOTAL UNITS REQUIRED: 13

WEB PAGE EDITOR SKILLS CERTIFICATE
Assists in preparing students for entry level positions on a Web team or upgrades and expands existing office skills. Students will apply skills to edit web sites using HTML, Web page editing software, imaging, and animation programs; assist in the production of professional web sites; maintain or update an organization’s existing web site; create small business web sites. Helps prepare students for careers in Web Production Support. A certificate is designed to provide career technical skills; it is not equivalent to an A.A. or A.S. degree.

REQUIRED COURSES
CIS 67 Foundations for Creating Web Pages 3
CIS 100 Software for Dynamic Presentations 3
CIS 127 Creating Web Sites 3
AAD 65 Capturing Digital Images 1
AAD 85 Introduction to Web Design 3
TOTAL UNITS REQUIRED: 13

Computer Information Systems Courses

CIS 1 COMPUTER BASICS
Units: 3
Hours: 72 (54 lecture, 18 laboratory)
Basic hands-on introduction for new computer users: turning on the computer, operating a mouse, using data storage. Lots of hands-on practice. Includes basic terminology; simple word processing, email and web browsing. (not transferable)

CIS 5 COMPUTER KEYBOARDING AND WORD PROCESSING BASICS
Units: 3
Advisory: Eligibility for ESL 20L and 20R
Hours: 72 (54 lecture, 18 laboratory)
Introduction to touch-typing techniques. Development of accuracy and speed. Basic computer concepts and production of standard business documents using word processing software. Prepares students for CIS 20 or any course requiring typed documents. Not recommended for students with one year of high school keyboarding or word processing. (CSU)

CIS 12 VOICE RECOGNITION SOFTWARE
Units: 3
Advisory: Completion of CIS 1 or concurrent enrollment in CIS 30
Hours: 72 (54 lecture, 18 laboratory)
Introduction to use of voice-recognition software to input information into the computer by voice rather than keyboard. Focus on learning dictation commands and techniques for continuous voice dictation. Covers voice commands for inputting, formatting and editing documents as well as for using menus and mouse commands. (CSU)
CIS 15 KEYBOARDING FOR COMPUTER USERS
Units: 1
Advisory: Completion of CIS 50, CIS 60, CSCI 10 or equivalent recommended
Hours: 24 (18 lecture, 6 laboratory)
Intensive self-paced keyboarding course for students with previous computer experience, but no formal typing skills. Emphasizes alphanumeric data entry by touch. Develops speed and accuracy using a computer keyboard. May be taken two times for credit. (CSU)

CIS 20 KEYBOARDING REVIEW AND SKILL BUILDING
Units: 3
Advisory: Eligibility for ESL 540L and 540R; completion of CIS 5, ability to type at least 30 wpm, or one year high school computer keyboarding or equivalent recommended
Hours: 72 (54 lecture, 18 laboratory)
Computer keyboarding review using proper techniques. Setting performance goals with emphasis on accuracy and speed. Developing enhanced proofreading skills. Utilizing word processing software to create and format more complex business documents. (CSU)

CIS 26 PREPARATION FOR A+ CERTIFICATION
Formerly known as CST 30
Units: 3
Advisory: Completion of CIE 25 or equivalent recommended
Hours: 72 (54 lecture, 18 laboratory)
Advanced course focusing on the tools and techniques required to meet the objectives of CompTIA’s A+ certification. Includes troubleshooting and repairing personal computers and associated peripheral devices, installation, configuration, upgrading, diagnosing, repair, safety, and preventive maintenance. (not transferable)

CIS 28 INDEPENDENT STUDY
Units: 1-3
Designed for students interested in furthering their knowledge at an independent study level in an area where no specific curriculum offering is currently available. Independent study might include, but is not limited to, research papers, special subject area projects, and research projects. May be taken four times for credit. See Independent Study page in catalog. (CSU)

CIS 30 FUNDAMENTAL COMPUTER CONCEPTS AND APPLICATIONS
Units: 3
Hours: 72 (54 lecture, 18 laboratory)
Hands-on introduction to personal computer applications for students with little prior computer experience. Includes basics of file management, word processing, spreadsheets and data entry. Introduces students to Windows operating system, Internet, online course materials, and web-based email. (CSU)

CIS 30L FUNDAMENTAL COMPUTER CONCEPTS AND APPLICATIONS LABORATORY
Units: 0.5
Corequisite: Concurrent enrollment in CIS 30
Hours: 36 laboratory
Optional problem solving course to accompany CIS 30. For students with little prior computer experience. Basics of file management, word processing, spreadsheets and data entry, using Windows operating system, Internet and web-based email. (pass/no pass grading) (not transferable)

CIS 35 COMPUTER SKILLS FOR SUCCESS IN AN ONLINE COURSE
Units: 1-3
Advisory: Completion of CIS 30 with a grade of “C” or better
Hours: 18 lecture hours per unit
Hands-on introduction to specialized computer and Internet skills needed for success in an online course. Topics include selected elements of Windows file management, Internet, Web Browser, Email, Word, Online learning system (such as Blackboard). (CSU)

CIS 37 FUNDAMENTAL INTERNET TECHNIQUES AND STRATEGIES FOR COLLEGE
Units: 3
Hours: 72 (54 lecture, 18 laboratory)
Hands-on introduction to the Internet and computer skills for practical application in online courses or college courses with a computer component. Locating educational websites, evaluating and citing web resources, saving and organizing research results. Strategies for online learning: online discussions download and upload course materials, attachments. Basic Internet security precautions. Along with CIS 50, prepares for CIS 67. (CSU)

CIS 45 COMPUTER USER SUPPORT CONCEPTS
Units: 3
Hours: 72 (54 lecture, 18 laboratory)
A standard for help desk and computer support specialists and those considering becoming support professionals. Focuses on key information for user support professionals, including decision making, communicating successfully with a client, determining the client’s specific needs, writing for the end user, use of Web and e-mail-based support. (CSU)

CIS 50 APPLYING COMPUTER SOFTWARE
Units: 3
Advisory: Completion of CIS 30 or equivalent
Hours: 72 (54 lecture, 18 laboratory)
An overview of the use and relevancy of common office application software for word processing, spreadsheets, charting data, databases, and presentations. Using current business operating system software, managing files on a network file server and transmitting files via the Internet. (CSU)
CIS 52 CREATING A VIRTUAL OFFICE
Also known as BUS 52
Units: 3
Advisory: Eligibility for ENGL 1A or ESL 40W
Hours: 72 (54 lecture, 18 laboratory)
Introduction to the Virtual industry using technology to work from home—telecommuting. Individuals may choose to work outside of their corporate/business office or may be entrepreneurs who wish to be self-employed. Explores issues to be addressed when creating a virtual office. Topics include managing time, customizing workplace environment, evaluating and buying technology, communicating with technology, and business ethics. (CSU)

CIS 53 MARKETING A VIRTUAL OFFICE
Also known as BUS 53
Units: 3
Advisory: Completion of BUS 52/CIS 52 and CIS 70
Hours: 72 (54 lecture, 18 laboratory)
Introduction to virtual marketing techniques and skills needed to obtain virtual employment positions and clients. Students will identify and evaluate various employment marketing techniques such as networking, conducting virtual interviews, belonging to professional organizations, developing flyers and brochures, developing a professional Internet web site, and using numerous Web-based resources to market skills and services. (CSU)

CIS 54 MANAGING A VIRTUAL OFFICE
Also known as BUS 54
Units: 3
Advisory: Completion of CIS 50, BUS 52/CIS 52, and BUS 53/CIS 53 or equivalent
Hours: 72 (54 lecture, 18 laboratory)
Examines specialized professional administrative concepts and documents used to manage information in the virtual workplace. Organizational concepts, decision making, effective business relationships, time and stress management, business plans, ethics, customer service, and teamwork skills are emphasized. (CSU)

CIS 65 NETWORKING FUNDAMENTALS
Formerly known as CST 40
Also known as CSCI 65
Units: 3
Advisory: Completion of CSCI 10 or CIS 50 or CIS 60
Hours: 72 (54 lecture, 18 laboratory)
Installation and administration of Local Area Networks (LANS) and Wide Area Networks (WANS). Topics include: architectures, topologies, protocols, network operating systems, sharing network devices and software, network backup/restore, diagnostics, and internetworking. Laboratory assignments focus on building and configuring LANs using Microsoft Server 2003 and 2000 Professional Operating Systems. (CSU)

CIS 67 FOUNDATIONS FOR CREATING WEB PAGES
Units: 3
Advisory: Completion of CIS 37 and 50 or equivalent
Hours: 72 (54 lecture, 18 laboratory)
Introduction to building Web pages using HTML and basic Web-authoring software; technical concepts behind Web pages: how the Internet works, connection technologies, Web search techniques, evaluating Web pages, file transfer, file compression, browser tips and tricks, mailing lists, Internet security. Prepares for CIS 127 and 137. (CSU)

CIS 70 WORD PROCESSING-BEYOND THE BASICS
Units: 3
Advisory: Keyboarding skill of 25 w.p.m. and completion of CIS 50 or equivalent
Hours: 72 (54 lecture, 18 laboratory)
Includes styles and outlines, generating form letters, mailing labels and envelopes, working with master documents, mapping features, indexes and tables of content, creating a report using wizards and templates, applying macros, integrating software, creating web pages and online forms. (CSU)

CIS 80 SPREADSHEETS IN A BUSINESS ENVIRONMENT
Units: 3
Advisory: Completion of CIS 50 or equivalent recommended
Hours: 72 (54 lecture, 18 laboratory)
Design and use of “what-if” analysis, static and dynamic web pages, financial functions, data and lookup tables, amortization schedules and templates. Includes working with multiple worksheets and workbooks, analyzing worksheet results, sorting and querying a worksheet database, using macros, and integrating software. (CSU)

CIS 87 BEGINNING ARC GIS SOFTWARE
Also known as ESCI 91A, EST 91A, GEOG 91A
Units: 1
Hours: 18 lecture
Introduction to Geographic Information Systems (GIS) mapping software used to manage, analyze and display spatial information. Create reports and map layouts, query geographic databases, and solve spatial problems. Emphasis on using GIS software for practical applications in the fields of natural resource management, disaster mapping, cartographic design, urban planning, business and other related fields. (CSU)
CIS 88 COMPUTER FORENSICS
Also known as ADMJ 88
Units: 3
Advisory: Completion of ADMJ 54
Hours: 72 (54 lecture, 18 laboratory)
Introduces tools and techniques of preserving and investigating digital evidence in a systematic and scientifically reliable manner using modern computer forensic software applications. Students introduced to the interpretation and analysis of recovered data for the purpose of collecting legal evidence. Exposure to data in an array of formats and applications from several computer types and operating systems as well as deleted, encrypted, and damaged information. Evidence reporting practices also introduced. (CSU)

CIS 90 DATABASE MANAGEMENT
Units: 3
Advisory: Completion of CIS 50 with grade of “C” or better or equivalent recommended
Hours: 72 (54 lecture, 18 laboratory)
Developing database systems using the current version of Microsoft Access. Includes designing database structures: tables, queries, forms, reports, and more. Also includes integrating with the Web, Excel and other programs. Emphasis on hands-on learning. (CSU)

CIS 95 INTERNSHIP IN COMPUTER INFORMATION SYSTEMS
Units: 0.5-4
Designed for advanced students to work in an area related to their educational or occupational goal. Provides new on-the-job technical training under the direction of a worksite supervisor, allowing students to expand knowledge and skills in the chosen field. Mandatory orientation session and faculty approval to determine eligibility. Students may earn up to a total of 16 units in internship courses (any course numbered 95 and PDEV 94). (CSU—with unit limitation)

CIS 100 SOFTWARE FOR DYNAMIC PRESENTATIONS
Units: 3
Advisory: Completion of CIS 50 or equivalent recommended
Hours: 72 (54 lecture, 18 laboratory)
Integration of text, graphics, animation, music, movies and other software applications within a realistic business context. Customizing and executing quality presentations using basic through advanced design styles and techniques. (CSU)

CIS 105 MICROSOFT OUTLOOK—MANAGING INFORMATION
Units: 3
Advisory: Completion of CIS 50 or equivalent recommended
Hours: 72 (54 lecture, 18 laboratory)
Includes managing email folders; sending, receiving, forwarding email messages; using “netiquette” and distribution lists; scheduling appointments, meetings, events; creating contacts, address books and calendars; tracking tasks; setting reminders; sharing information and publishing schedules via the web. (not transferable)

CIS 115 SOFTWARE CONFIGURATION AND TROUBLESHOOTING
Units: 3
Advisory: Completion of CIS 50 and CIS 65 or equivalent recommended
Hours: 72 (54 lecture, 18 laboratory)
Basic skills in software troubleshooting and configuration, including configuring the operating system, setting a computer for different printers, diagnosing hardware and software problems, and providing interactive instructions for the solution. (CSU)

CIS 120 CREATING BUSINESS GRAPHICS WITH MICROSOFT PUBLISHER
Units: 3
Advisory: Completion of CIS 50 or CIS 70 or equivalent recommended
Hours: 72 (54 lecture, 18 laboratory)
Designed to assist the office professional utilize Microsoft Publisher to create high-quality desktop publishing documents. Learning activities include preparation of a flyer, newsletter, logo, CD liner, business card, tri-fold brochure, calendar, catalog, event program, coupon, and certificate. (CSU)

CIS 127 CREATING WEB SITES
Units: 3
Prerequisite: Completion of CIS 50 and CIS 67 or equivalent
Advisory: Completion of or concurrent enrollment in CIS 137 or equivalent recommended
Hours: 72 (54 lecture, 18 laboratory)
Introduction to basic techniques for creating web sites using the industry standard Windows-based software. Fundamentals of planning, coding, publishing and testing documents on a web server. Presenting and evaluating web sites from a business perspective. (CSU)
CIS 135 PROJECT MANAGEMENT CONCEPTS
Units: 3
Advisory: Completion of BUS 100 with a grade of "C" or better
Hours: 54 lecture
Project management is used in every field in today’s competitive marketplace such as construction, software development, the health care industry, and marketing. Concepts include scheduling, budgeting, communications, team building, planning, implementation and completion. Students apply lessons in a project based learning environment. (not transferable)

CIS 136 PROJECT MANAGEMENT SOFTWARE
Units: 3
Advisory: Completion of CIS 135 with a grade of "C" or better
Hours: 72 (54 lecture, 18 laboratory)
Explores use of the most recent version of Microsoft Office Project and other project management tools through hands-on exercises and classroom learning experiences. Includes WBS, budgeting, and resource allocation. Prepares students to use these software packages in their daily duties as a project manager. (not transferable)

CIS 137 MANAGING A SUCCESSFUL WEB PROJECT
Units: 3
Advisory: Completion of GIS 135 with a grade of "C" or better
Hours: 72 (54 lecture, 18 laboratory)
Introduction to the process of managing a successful web project; integrating technology, creativity, business and end-user information. Key issues and techniques, from original idea through implementation of a new or redesigned site including: purpose, usability, user-focus, conceptual design, hosting, domain names, promotion, maintenance. Emphasis on planning for the site’s success in anticipation of investing in building it. (CSU)

CIS 140 ADVANCED COMPUTER SOFTWARE APPLICATIONS
Units: 3
(Inactive 3-11-2003)

CIS 141 INSTALLING, CONFIGURING AND ADMINISTERING MICROSOFT CLIENT OS
Formerly known as CST 45
Units: 3
Advisory: Completion of CIS 65/CSCI 65 or equivalent
Hours: 72 (54 lecture, 18 laboratory)
Setup and support for a desktop operating system using Microsoft’s current Desktop Operating System in a networked environment. Creation of local and domain-level accounts, creation of shared resources, use of network services, remote access, resource management and monitoring, and security considerations. (CSU)

CIS 142 INSTALLING, CONFIGURING & ADMINISTERING A SECURE WINDOWS SERVER
Formerly known as CST 50
Units: 3
Prerequisite: Completion of CIS 141 or equivalent
Hours: 72 (54 lecture, 18 laboratory)
Setup, configuration and support of a Server Operating System in a networked environment. Creation of local and domain-level accounts. Use of network services in a mixed and native mode environment. Remote access, resource management, monitoring, and security considerations with a more in-depth look at directory services. Preparation for Microsoft certification examination. (CSU)

CIS 143 MANAGING A WINDOWS NETWORK ENVIRONMENT
Formerly known as CST 56
Units: 3
Prerequisite: Completion of CIS 142 or equivalent
Hours: 72 (54 lecture, 18 laboratory)
Instructs students in the skills needed to perform desktop and server installation and configuration tasks. Network and operating system management tasks in a Microsoft Windows environment including implementation, management and troubleshooting. Preparation for MSCA certification examination. (not transferable)

CIS 144 SUPPORTING A NETWORK INFRASTRUCTURE
Formerly known as CST 55
Units: 3
Prerequisite: Completion of CIS 142 or equivalent
Hours: 72 (54 lecture, 18 laboratory)
Covers issues relating to installation, configuration, and management of network infrastructures. DHCP, DNS, RRAS, IIS and other services needed to support a Windows Active Directory environment. Preparation for Microsoft certification examination. (CSU)

CIS 145 IMPLEMENTING AND ADMINISTERING DIRECTORY SERVICES
Formerly known as CST 60
Units: 3
Prerequisite: Completion of CIS 144 or equivalent
Hours: 72 (54 lecture, 18 laboratory)
Implementation and administration of network directory services. Planning and use of Group Policies and tasks required to centrally manage users and computers. Preparation for Microsoft certification examination. (CSU)
CIS 146 WIRELESS NETWORKING AND SECURITY
Formerly known as CST 71
Units: 3
Advisory: CIS 142 or equivalent experience
Hours: 72 (54 lecture, 18 laboratory)
Design, plan, implement, operate and troubleshoot wireless networks. Includes a comprehensive overview of technologies, security, and design best practices. Particular emphasis on hands-on skills in wireless LAN setup and troubleshooting, resilient WLAN design, installation and configuration, site surveys, and vendor interoperability strategies. (not transferable)

CIS 147 INTERNET AND INTRANET SECURITY
Formerly known as CST 70
Units: 3
Prerequisite: Completion of CIS 142 or equivalent
Hours: 72 (54 lecture, 18 laboratory)
Installation and administration of software-based firewall solutions and web server installations. Includes security systems analysis that integrates firewall protection, encrypted e-mail and relational databases with Internet and Intranet web servers. Analysis of an organization's exposure to security threats from internal and external sources and protection of network users from hostile applications and viruses. (not transferable)

CIS 149 DATABASE ADMINISTRATION IN A CLIENT/SERVER ENVIRONMENT
Formerly known as CST 85
Units: 3
Advisory: Completion of CSCI 52, CIS 90 or equivalent
Hours: 72 (54 lecture, 18 laboratory)
Installation, configuration, administration and troubleshooting of a client-server database management system. Includes information on security, backup strategies, transaction log management, data mining, and more. (not transferable)

CIS 150 CAREERS IN THE COMPUTER INDUSTRY
Also known as CSCI 150, PDEV 150C
Units: 0.5
Hours: 9 lecture
Career exploration in the computer industry. Includes orientation to the academic program at Sierra College, employment opportunities, career pathways, educational planning of the Associates degree, certificate, transfer, research of labor market and occupational information. (pass/no pass grading) (CSU)

CIS 160 HOME TECHNOLOGY INTEGRATION
Formerly known as CST 41
Units: 3
Advisory: Completion of CIS 65/CSCI 65, or CIE 25, or equivalent experience
Hours: 72 (54 lecture, 18 laboratory)
Introduction to home technology integration. Home networks and control of electrical sub-systems from the home computer or remotely through a web connection. Hands-on experience installing home technology equipment looking at issues, options and design considerations within the industry. Topics include tools and equipment needs, codes and standards, and installation options. (not transferable)

CIS 285 DIAGRAMMING AND DOCUMENTING A BUSINESS ENTERPRISE
Units: 1
Prerequisite: Completion of CIS 60 or equivalent
Hours: 24 (18 lecture, 6 laboratory)
Introduction to the use of Microsoft Visio as a documentation and design tool for networks, databases, information flow charting and organizational charts. Includes the use of basic draw tools and stencils, as well as creating specialized views with layers and custom stencils. (not transferable)

CIS 300 SELECTED TOPICS IN COMPUTER INFORMATION SYSTEMS
Units: 0.5-4
Courses of study will cover topics relevant to the discipline. Topics will vary. Course content and unit credit to be determined by the division. May be offered as seminar, lecture, or lecture/laboratory classes. Students may repeat “300” courses within a discipline only when a topic is different from previously completed course. See Selected Topics page in catalog. (CSU)

CIS 347A LAYOUT EMPHASIS IN CREATING WEB SITES
Units: 3
Prerequisite: Completion of CIS 127 and 137
Hours: 72 (54 lecture, 18 laboratory)
Applying techniques for creating web sites using the industry standard Windows-based layout software. Emphasis on applying and enhancing web production skills to build more efficiently and to create more effective web sites. Advanced site planning, coding, evaluation and critique of web sites. (CSU)

CIS 400 SELECTED TOPICS IN COMPUTER INFORMATION SYSTEMS
Units: 0.5-4
Courses of study will cover topics relevant to the discipline. Topics will vary. Course content and unit credit to be determined by the division. May be offered as seminar, lecture, or lecture/laboratory classes. Students may repeat “400” courses within a discipline only when a topic is different from previously completed course. See Selected Topics page in catalog. (not transferable)
Computer Integrated Electronics
(See Mechatronics)

Computer Science
(Also see Computer Information Systems and Mechatronics)

BUSINESS, APPLIED ACADEMICS, & PHYSICAL EDUCATION
DEAN: Luis Sanchez
ASSOCIATE DEAN: Darlene Jackson
DIVISION OFFICE: B 3
FACULTY: B. Brown, B. Cole, M. Dobeck, T. Owens
LIAISON COUNSELORS: B. Hawkes, Reyes Ortega, C. West

The Computer Science curriculum prepares students for careers in computer programming and for transfer to state colleges and universities for further study in computer sciences or information science. The curriculum offers students both the theory and practical experience for entry level positions of employment. There are computer courses for non-science majors as well as science majors. In all cases, students should consult with a counselor for specific transfer requirements.

The Computer Science curriculum meets the Data Processing Management Association mode curriculum for undergraduate computer information systems education.

COMPUTER SCIENCE—COMPUTER SCIENCE CONCENTRATION
A.A. OR A.S. DEGREE
The curriculum in Computer Science concentration prepares students for transfer to many university Computer Science degree programs. See a counselor for specific transfer requirements.

Students must fulfill major requirements and all associate degree requirements for the A.A./A.S. degree; see pages 42-43.

REQUIRED COURSES
CSCI 12 Introduction to Object-Oriented Programming 3
CSCI 13 Intermediate Object-Oriented Programming 3
CSCI 26 Discrete Structures for Computer Science 3
CSCI 39 Introduction to Computer Architecture & Assembly Language 3
CSCI 50 Introduction to UNIX 3
CSCI 62 Web Programming I 3

PLUS 6 ADDITIONAL UNITS FROM THE FOLLOWING:
CSCI 12 Introduction to Object-Oriented Programming 3
CSCI 55 ASP.NET Programming 3
CSCI 59P Web Programming with PHP 3
CSCI 59R Developing Web Applications with Ruby on Rails 3
CSCI 63 Web Programming II 3
CSCI 68 XML Programming 3

TOTAL UNITS REQUIRED: 27

COMPUTER SCIENCE—MANAGEMENT INFORMATION SYSTEMS CONCENTRATION
A.A. OR A.S. DEGREE
The curriculum in Management Information Systems has special emphasis on development, installation, and maintenance of business software applications. Students must fulfill major requirements and all associate degree requirements for the A.A./A.S. degree; see pages 42-43.

REQUIRED COURSES
CSCI 10 Introduction to Computing 3
CSCI 27 Visual Basic .NET Programming I 3
CSCI 50 Introduction to UNIX 3
CSCI 52 Introduction to SQL 3
CSCI 54 Visual Basic .NET Programming II 3
CSCI 62 Web Programming I 3
CSCI 65 Networking Fundamentals (also CIS 65.) 3

PLUS 9 ADDITIONAL UNITS FROM THE FOLLOWING:
CSCI 21 Game Development Foundations 3
CSCI 27 Visual Basic .NET Programming I 3
CSCI 46 C Language Programming 3
CSCI 52 Introduction to SQL 3
CSCI 54 Visual Basic .NET Programming II 3
CSCI 65 Networking Fundamentals (also CIS 65.) 3
CSCI 66 Object-Oriented Programming Using C++ 3
CSCI 76A Game Programming I 3

TOTAL UNITS REQUIRED: 27
COMPUTER SCIENCE—EMBEDDED SYSTEMS CONCENTRATION CERTIFICATE
Successful completion of the curriculum in Embedded Systems concentration prepares students for entry-level programming positions in companies which manufacture products that have embedded microprocessors. A certificate is designed to provide career technical skills; it is not equivalent to an A.A. or A.S. degree.

REQUIRED COURSES

<table>
<thead>
<tr>
<th>Course</th>
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<tr>
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<td>3</td>
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<tr>
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<td>3</td>
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<tr>
<td>CSCI 39 Introduction to Computer Architecture &amp; Assembly Language</td>
<td>3</td>
</tr>
<tr>
<td>CSCI 46 C Language Programming</td>
<td>3</td>
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<td>CSCI 70 Microcontroller Programming</td>
<td>4</td>
</tr>
<tr>
<td>MECH 10 Fundamentals of Electronics</td>
<td>4</td>
</tr>
</tbody>
</table>

TOTAL UNITS REQUIRED: 20

COMPUTER SCIENCE—WEB PROGRAMMING CONCENTRATION CERTIFICATE
Successful completion of the curriculum in Web Programming Concentration prepares students for careers in Web design, access, and implementation, and for writing programs that can be run from the Internet. A certificate is designed to provide career technical skills; it is not equivalent to an A.A. or A.S. degree.

REQUIRED COURSES

<table>
<thead>
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<td>3</td>
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<tr>
<td>CSCI 52 Introduction to SQL</td>
<td>3</td>
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<tr>
<td>CSCI 62 Web Programming I</td>
<td>3</td>
</tr>
<tr>
<td>CSCI 63 Web Programming II</td>
<td>3</td>
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<tr>
<td>CSCI 68 XML Programming</td>
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</table>

PLUS 6 ADDITIONAL UNITS FROM THE FOLLOWING:

<table>
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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>CSCI 50 Introduction to UNIX</td>
<td>3</td>
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<tr>
<td>CSCI 55 ASP.NET Programming</td>
<td>3</td>
</tr>
<tr>
<td>CSCI 59P Web Programming with PHP</td>
<td>3</td>
</tr>
<tr>
<td>CSCI 59R Developing Web Applications with Ruby on Rails</td>
<td>3</td>
</tr>
</tbody>
</table>

TOTAL UNITS REQUIRED: 21

Computer Science Courses

CSCI 10 INTRODUCTION TO COMPUTING
Units: 3
Advisory: Completion of MATH A or equivalent
Hours: 72 (54 lecture, 18 laboratory)
Survey of computer science technologies and methods. Introduction to computer hardware and software, structured programming, operating system concepts, communications and social impacts of computer technology. Explore current and emerging topics such as the Internet, robotics, computer security and artificial intelligence. (CSU, UC)

CSCI 12 INTRODUCTION TO OBJECT-ORIENTED PROGRAMMING
Units: 3
Prerequisite: Completion of CSCI 10 or equivalent
Hours: 72 (54 lecture, 18 laboratory)
Introductory programming course emphasizing simple algorithms, sequence, selection, repetition, modularity, arrays, abstract data types, object-oriented design, classes, member functions, encapsulation, and basic file input/output. (CSU, UC)

CSCI 13 INTERMEDIATE OBJECT-ORIENTED PROGRAMMING
Units: 3
Prerequisite: Completion of CSCI 12 or equivalent
Hours: 72 (54 lecture, 18 laboratory)
Intermediate programming course emphasizing object-oriented program design and implementation. Applying techniques for systematic problem analysis, program specification, design, coding testing, debugging and documentation of larger programs. Advanced language features: strings, text and non-text files, references. Managing program complexity using abstraction. Abstract data types: simple lists, stacks and queues. Introduction to algorithm analysis and Big-O notation. Recursive algorithms. (CSU, UC)

CSCI 21 GAME DEVELOPMENT FOUNDATIONS
Units: 3
Advisory: Completion of MATH D or equivalent
Hours: 72 (54 lecture, 18 laboratory)
Survey of the history, technology, ethics, and design of computer games. Intended as a generally accessible course in which students learn about the creation of computer games including storyboards, character design, game play, animation and marketing. Students use these concepts to create a computer game of their own design. Programming experience not required. (CSU, UC)

CSCI 26 DISCRETE STRUCTURES FOR COMPUTER SCIENCE
Units: 3
Prerequisite: Completion of CSCI 10 or equivalent
Hours: 72 (54 lecture, 18 laboratory)
Introduction to the essential discrete structures used in Computer Science, with emphasis on their applications. Includes elementary formal logic and set theory, elementary combinatorics, recursive programming and algorithm analysis, Boolean Algebra, digital logic, combinatorial circuits, circuit design and minimization, and computer arithmetic. (CSU, UC)
CSCI 27 VISUAL BASIC .NET PROGRAMMING I
Units: 3
Prerequisite: Completion of CSCI 10 or equivalent
Hours: 72 (54 lecture, 18 laboratory)
Introduction to methods and techniques of Visual Basic .NET programming. Includes coverage of user interface design, variables, decisions, menus, functions, object-oriented programming, looping, arrays, files, and graphics. Designed to bring students up to the necessary skill and knowledge level for an intermediate-level programming course. (CSU)

CSCI 28 INDEPENDENT STUDY
Units: 1-3
Designed for students interested in furthering their knowledge at an independent study level where no specific curriculum offering is currently available. Independent study might include, but is not limited to, research papers, special subject area projects, and research projects. May be taken four times for credit. See Independent Study page in catalog. (CSU, UC—with unit limitation)

CSCI 39 INTRODUCTION TO COMPUTER ARCHITECTURE AND ASSEMBLY LANGUAGE
Units: 3
Prerequisite: Completion of CSCI 10 with grade of “C” or better or equivalent
Hours: 72 (54 lecture, 18 laboratory)
Assembly language programming techniques and introductory computer architecture concepts. Topics include addressing modes; pseudo operations; stack processing; subroutine linkage; arithmetic and logical operations; input and output. Programs are designed, coded, tested, and debugged. (CSU, UC)

CSCI 46 C LANGUAGE PROGRAMMING
Units: 3
Prerequisite: Completion of CSCI 10 or equivalent
Hours: 72 (54 lecture, 18 laboratory)
Extensive programming practice using the C language. Concentration on mastering C programming skills for programming effectively in industry, government, and engineering. (CSU, UC)

CSCI 50 INTRODUCTION TO UNIX
Units: 3
Prerequisite: Completion of CSCI 10 or equivalent
Hours: 72 (54 lecture, 18 laboratory)
An introduction to the UNIX operating system. A comprehensive study, with laboratory assignments, of UNIX commands, file manipulation, shell programming, administration, and security. (CSU)

CSCI 52 INTRODUCTION TO SQL
Units: 3
Prerequisite: Completion of CSCI 10 or equivalent
Hours: 72 (54 lecture, 18 laboratory)
Survey of SQL (Structured Query Language). Includes database models, database design, table and view definition, transaction and data manipulation, queries and reports, data integrity, stored procedures, triggers, recovery and security. Hands-on experience using a popular SQL database. (CSU)

CSCI 54 VISUAL BASIC .NET PROGRAMMING II
Units: 3
Prerequisite: Completion of CSCI 27 or equivalent
Hours: 72 (54 lecture, 18 laboratory)
Intermediate Visual Basic .NET programming. Includes coverage of multitier applications, database applications, databases using related tables, database updates, using Web forms, Web forms database and updates, XML Web services, and writing database reports using Crystal Reports. (CSU, UC)

CSCI 55 ASP.NET PROGRAMMING
Units: 3
Prerequisite: Completion of CSCI 27 or equivalent
Hours: 72 (54 lecture, 18 laboratory)
Intermediate Web programming course. Combines ASP (Active Server Pages) and Visual Basic .NET programming to create dynamic data-driven Web applications. Covers Web programming concepts including advanced topics of ADO and implementing security in ASP. (CSU)

CSCI 59P WEB PROGRAMMING WITH PHP
Formerly known as CSCI 303
Units: 3
Prerequisite: Completion of CSCI 12 or CSCI 27 or equivalent
Advisory: Completion of CSCI 62 or equivalent experience
Hours: 72 (54 lecture, 18 laboratory)
Create dynamic, session-oriented, data-driven web sites using the PHP scripting language. Covers processing fill-out forms, database backends, session management, authentication and searching. (CSU)

CSCI 59R DEVELOPING WEB APPLICATIONS WITH RUBY ON RAILS
Units: 3
Prerequisite: Completion of CSCI 12 or CSCI 27 or equivalent
Advisory: Completion of CSCI 62 or equivalent experience
Hours: 72 (54 lecture, 18 laboratory)
Introduction to the Ruby object-oriented programming language and Rails web application framework. Using Ruby on Rails, web applications with tight database integration can be developed and deployed with speed and agility. This course covers the fundamentals of programming in Ruby as it pertains to using Rails. Other topics include: the Rails model/viewer/controller architecture, SQL database backends, using layouts, scaffolds, and session management. (CSU)
CSCI 62 WEB PROGRAMMING I
Units: 3
Prerequisite: Completion of CSCI 10 or equivalent
Hours: 72 (54 lecture, 18 laboratory)
Introduction to methods and techniques of Web programming. Includes coverage of HyperText Markup Language (HTML), Cascading Style Sheets (CSS), Extensible HyperText Markup Language (XHTML), and JavaScript. Designed to bring students up to the necessary skill and knowledge level for an intermediate Web programming course. (CSU)

CSCI 63 WEB PROGRAMMING II
Units: 3
Prerequisite: Completion of CSCI 62 or equivalent
Hours: 72 (54 lecture, 18 laboratory)
Intermediate Web programming course. Emphasizes Extensible HyperText Markup Language (XHTML) and JavaScript. Includes: animated Web pages; rollovers, menus, filters, and transitions; interactive windows/frames; form validation using regular expressions; shopping carts; and creating a dynamic table of contents. (CSU)

CSCI 65 NETWORKING FUNDAMENTALS
Also known as CIS 65
Units: 3
Advisory: Completion of CIS 10 or CIS 50 or CIS 60
Hours: 72 (54 lecture, 18 laboratory)
Installation and administration of Local Area Networks (LANS) and Wide Area Networks (WANS). Topics include: architectures, topologies, protocols, network operating systems, sharing network devices and software, network backup/recovery, diagnostics, and internetworking. Laboratory assignments focus on building and configuring LANs using Microsoft Server 2003 and 2000 Professional Operating Systems. (CSU)

CSCI 66 OBJECT-ORIENTED PROGRAMMING USING C++
Units: 3
Prerequisite: Completion of CSCI 12 or CSCI 46 or equivalent
Hours: 72 (54 lecture, 18 laboratory)
An introduction to the concepts of object-oriented programming and the application of the C++ language. Extensive programming practice using C++ as the vehicle toward modular, reusable object-oriented code. (CSU, UC)

CSCI 68 XML PROGRAMMING
Units: 3
Prerequisite: Completion of CSCI 62 or equivalent
Hours: 72 (54 lecture, 18 laboratory)
Intermediate Web course. Combines XML (Extensible Markup Language) and programming familiarity to create dynamic data-driven Web applications. Covers DTD (Document Type Definitions), CSS (Cascading Style Sheets), XSL (Extensible Style Sheets), and DOM (Document Object Model). (CSU)

CSCI 70 MICROCONTROLLER PROGRAMMING
Units: 4
Prerequisite: Completion of CSCI 39
Hours: 108 (54 lecture, 54 laboratory)
Microcontroller programming techniques. Topics include microcontroller architecture, peripheral programming, high-level language interfacing and real-time control methodologies. Extensive practice writing microcontroller programs. Students are required to implement a substantial project. (not transferable)

CSCI 76A GAME PROGRAMMING I
Units: 3
Prerequisite: Completion of CSCI 12 or equivalent
Advisory: Completion of or concurrent enrollment in CSCI 13 or equivalent
Hours: 72 (54 lecture, 18 laboratory)
Explore the algorithms, data structure, and techniques used to program computer video games. Emphasis on arcade-style video games (new and classic) written in Java. Topics include 2D animation, sprites, interaction, music, and sound. Underlying issues include graphical user interface programming, multi-threaded applications, realtime programming, use of sophisticated APIs, and societal impacts of computer gaming. (CSU, UC)

CSCI 95 INTERNSHIP IN COMPUTER SCIENCE
Units: 0.5-4
Designed for advanced students to work in an area related to their educational or occupational goal. Provides new on-the-job technical training under the direction of a worksite supervisor, allowing students to expand knowledge and skills in the chosen field. Mandatory orientation session and faculty approval to determine eligibility. Students may earn up to a total of 16 units in internship courses (any course numbered 95 and PDEV 94). (CSU—with unit limitation)

CSCI 150 CAREERS IN THE COMPUTER INDUSTRY
Also known as CIS 150, PDEV 150C
Units: 0.5
Hours: 9 lecture
Career exploration in the computer industry. Includes orientation to the academic program at Sierra College, employment opportunities, career pathways, educational planning of the Associates degree, certificate, transfer, research of labor market and occupational information. (pass/no pass grading) (CSU)

CSCI 300 SELECTED TOPICS IN COMPUTER SCIENCE
Units: 0.5-4
Courses of study will cover topics relevant to the discipline. Topics will vary. Course content and unit credit to be determined by the division. May be offered as seminar, lecture, or lecture/laboratory classes. Students may repeat “300” courses within a discipline only when a topic is different from previously completed course. See Selected Topics page in catalog. (CSU, UC—with unit limitation)
CSCI 302 ADVANCED PERL PROGRAMMING
Units: 3
Prerequisite: Completion of CSCI 59 or equivalent
Hours: 72 (54 lecture, 18 laboratory)
Advanced programming course in the Perl (Practical Extraction and Report Language) environment. Emphasizes object-orientation, modules, database access, user interfaces, programming for the web, interfacing with other languages, and debugging techniques. (CSU)

CSCI 309 MOBILE DEVICE PROGRAMMING
Units: 4
Hours: 108 (54 lecture, 54 laboratory)
Introductory programming course for mobile devices (specifically for the iPhone/iPad). Includes coverage of Objective-C, iPhone/iPad SDK, interface elements, tables, file system, SQLite, Quartz/OpenGL, and peripheral support (camera, accelerometer, GPS). (not transferable)

CSCI 400 SELECTED TOPICS IN COMPUTER SCIENCE
Units: 0.5-4
Courses of study will cover topics relevant to the discipline. Topics will vary. Course content and unit credit to be determined by the division. May be offered as seminar, lecture, or lecture/laboratory classes. Students may repeat “400” courses within a discipline only when a topic is different from previously completed course. See Selected Topics page in catalog. (not transferable)

Construction Technology (Cabinet-Residential)

BUSINESS, APPLIED ACADEMICS, & PHYSICAL EDUCATION
DEAN: Luis Sanchez
ASSOCIATE DEAN: Darlene Jackson
DIVISION OFFICE: B 3
FACULTY: C. Chamberlain
LIAISON COUNSELORS: E. Dickson, C. Epting-Davis, D. Quadros

The Construction Technology curriculum is designed to give students broad training not only in a specific trade but in a variety of useful academic subjects as well. Preparatory training through education is provided in all areas of the industry—contractors, remodelers, cabinet makers, building inspectors, carpenters, and others.

MILL CABINET
A.A. OR A.S. DEGREE
Successful completion of the curriculum in Mill Cabinet qualifies students for entry into any type of cabinet making, for example, assembly line production, custom cabinet making, design and layout of cabinet and furniture, and repairing routine machine malfunctions (those used in wood shops). Students must fulfill major requirements and all associate degree requirements for the A.A./A.S. degree; see pages 42-43.

REQUIRED COURSES

<table>
<thead>
<tr>
<th>COURSES</th>
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<tbody>
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<tr>
<td>CTC 2 Machine Operations &amp; Jointery</td>
<td>3</td>
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<tr>
<td>CTC 3 Custom Cabinet Making</td>
<td>3</td>
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<tr>
<td>CTC 4 Cabinet Layout &amp; Estimating</td>
<td>4</td>
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<tr>
<td>CTC 5 Residential Spatial Case Design and Production</td>
<td>3</td>
</tr>
<tr>
<td>CTC 9 Cabinet Doors &amp; Drawers</td>
<td>3</td>
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<tr>
<td>CTC 10 Cabinet Related Studies</td>
<td>3</td>
</tr>
<tr>
<td>CTC 22 Projects &amp; Design</td>
<td>3</td>
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<tr>
<td>CTC 24 Wood Finishing</td>
<td>3</td>
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<tr>
<td>Electives from below</td>
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</table>

TOTAL UNITS REQUIRED: 31
Electives: CTC 23, 35, 36; CTR 42, 44, 45, 60, 62.

MILL CABINET
CERTIFICATE

A Mill Cabinet certificate will qualify students for entry into any type of cabinet making, for example, assembly line production, custom cabinet making, design and layout of cabinet and furniture making, finishing and refinishing cabinets and furniture, repairing routine machine malfunctions (those used in wood shops) and setting up a cabinet shop. A certificate is designed to provide career technical skills; it is not equivalent to an A.A. or A.S. degree.

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<td>CTC 22 Projects &amp; Design</td>
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<tr>
<td>CTC 23 Advanced Projects &amp; Design</td>
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<tr>
<td>CTC 24 Wood Finishing</td>
<td>3</td>
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<tr>
<td>CTR 44 Conventional and Green Framing</td>
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<tr>
<td>Electives from below</td>
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</tbody>
</table>

TOTAL UNITS REQUIRED: 37
Electives: CTC 35, 36; CTR 42, 45, 60, 62.
CABINET MAKING CERTIFICATE
A Cabinet Making certificate will qualify students for entry into any type of cabinet making, for example, assembly line production, custom cabinet making, and repairing routine wood shop machine malfunctions. A certificate is designed to provide career technical skills; it is not equivalent to an A.A. or A.S. degree.

REQUIRED COURSES  UNITS
CTC 1 Introduction to Cabinet Making 3
CTC 2 Machine Operations & Jointery 3
CTC 3 Custom Cabinet Making 3
CTC 4 Cabinet Layout & Estimating 4
CTC 5 Residential Spatial Case Design and Production 3
CTC 9 Cabinet Doors & Drawers 3
CTC 10 Cabinet Related Studies 3
CTR 24 Wood Finishing 3
CTR 44 Conventional and Green Framing 3
Electives from below 3
TOTAL UNITS REQUIRED: 31
Recommended Electives: CTC 22, 23, 35, 36; CTR 42, 45, 60.

Carpentry Certificate
The Carpentry certificate prepares students for entry-level positions in all areas of the building construction industry, such as carpentry and mobile home industry. A certificate is designed to provide career technical skills; it is not equivalent to an A.A. or A.S. degree.

REQUIRED COURSES  UNITS
CTR 42 Foundations & Floor Systems 3
CTR 44 Conventional and Green Framing 3
CTR 45 Building Industry Analysis 4
CTR 47 Residential Blueprint Reading 1
CTR 48 Estimating 3
CTR 60 Residential House Wiring & Codes 3
CTR 62 Plumbing Installation & Design 3

PLUS 6 ADDITIONAL UNITS FROM:
CTR 24 Wood Finishing 3
CTR 35 Skill and Speed Development 3
CTR 37A Advanced Skill and Speed Development—Concrete 3
CTR 37B Advanced Skill and Speed Development—Framing 3
CTR 52 Residential Building Codes 3
EST 20 Architectural Drawing I 4
EST 21 Architectural Drawing II 3
ESS 32 Intermediate Photovoltaic Systems 4
TOTAL UNITS REQUIRED: 35

Residential Building Construction
A.A. or A.S. Degree and/or Certificate
The curriculum in Residential Building Construction prepares students for entry-level positions in all areas of the building construction industry, such as carpentry, mobile home industry, and estimating. It also satisfies up to two years of experience needed for the General Contractor’s license. Students must fulfill major requirements and all associate degree requirements for the A.A./A.S. degree; see pages 42-43. A certificate is designed to provide career technical skills; it is not equivalent to an A.A. or A.S. degree.

REQUIRED COURSES  UNITS
CTC 1 Introduction to Cabinet Making 3
CTC 5 Residential Spatial Case Design and Production 3
CTR 41 Finish Carpentry 3
CTR 42 Foundations & Floor Systems 3
CTR 44 Conventional and Green Framing 3
CTR 45 Building Industry Analysis 4
CTR 47 Residential Blueprint Reading 1
CTR 48 Estimating 3
CTR 60 Residential House Wiring & Codes 3
CTR 62 Plumbing Installation & Design 3

PLUS 6 ADDITIONAL UNITS FROM:
CTR 24 Wood Finishing 3
CTR 35 Skill and Speed Development 3
CTR 37A Advanced Skill and Speed Development—Concrete 3
CTR 37B Advanced Skill and Speed Development—Framing 3
CTR 52 Residential Building Codes 3
EST 20 Architectural Drawing I 4
EST 21 Architectural Drawing II 3
ESS 32 Intermediate Photovoltaic Systems 4
TOTAL UNITS REQUIRED: 35

Construction Technology (Cabinet Courses)

CTC 1 INTRODUCTION TO CABINET MAKING
Units: 3
Hours: 108 (36 lecture, 72 laboratory)
Fundamentals of woodworking hand tools, power hand tools and woodworking machinery to develop safety, knowledge, and skills leading to cabinet work and furniture making. Emphasis on basic cabinet making construction details, nomenclature, drawers, guides, doors, and cabinet design with some introduction to computer aided cabinetry design. (CSU)

CTC 2 MACHINE OPERATIONS AND JOINTERY
Units: 3
Hours: 108 (36 lecture, 72 laboratory)
Fundamentals of woodworking hand tools, power hand tools, and woodworking machinery to develop safety, knowledge and skills relating to jointery of furniture and cabinetry. Emphasis on basic furniture jointery, furniture case jointery, drawers, guides, nomenclature, panel lay-up and plastic laminates through assigned furniture/cabinet project. (CSU)
CTC 3 CUSTOM CABINET MAKING
Units: 3
Prerequisite: Completion of CTC 1
Hours: 108 (18 lecture, 90 laboratory)
Conventional cabinet construction revolving around extensive lab work and layout problems. Also includes custom production, the industrial processes, and blueprint reading. Cabinet vision estimating assigned and student initiated lab projects. (CSU)

CTC 4 CABINET LAYOUT AND ESTIMATING
Units: 4
Prerequisite: Completion of CTC 1
Hours: 72 lecture
Drawing of cabinet details, the development of cabinet layout, and cabinet cost estimating; extensive problem solving and business aspects involved in managing a cabinet shop. (CSU)

CTC 5 RESIDENTIAL SPATIAL CASE DESIGN AND PRODUCTION
Units: 3
Advisory: Completion of or concurrent enrollment in CTC 1
Hours: 108 (36 lecture, 72 laboratory)
Economy and custom grade conventional case construction revolving around industrial standards, jointery, processes, structures and hardware of residential case structural systems. Also included will be computer aided spatial designs. Lab work shall be instructor initiated case structures for a residential project. (CSU)

CTC 9 CABINET DOORS AND DRAWERS
Units: 3
Prerequisite: Completion of CTC 1 or CTC 2
Hours: 72 (36 lecture, 36 laboratory)
Design and construction details in a wide variety of cabinet doors and drawers. Course includes hinge systems, drawer guide systems, specialty hardware, and special convenience modules. (CSU)

CTC 10 CABINET RELATED STUDIES
Units: 3
Hours: 72 (36 lecture, 36 laboratory)
An introductory course with emphasis on three topics: laminated plastics and adhesives with cabinet faces and counter top fabrication; care and maintenance of woodwork machinery; and shop planning and development. (not transferable)

CTC 22 PROJECTS AND DESIGN
Units: 3
Prerequisite: Completion of CTC 2
Hours: 108 (36 lecture, 72 laboratory)
Introduction in design and construction of wood products, to include wood identification and technology, joint selection and design, furniture construction details, advanced machine operation, care of tools and equipment, problem solving, laboratory assignments, and controlled student selection of major lab projects. (CSU)

CTC 23 ADVANCED PROJECTS AND DESIGN
Units: 3
Prerequisite: Completion of CTC 1 and CTC 2
Hours: 108 (36 lecture, 72 laboratory)
Design and construction in furniture projects to include special design, special machine operations, problem solving, and student-selected laboratory projects. (CSU)

CTC 24 WOOD FINISHING
Units: 3
Hours: 90 (36 lecture, 54 laboratory)
Designed for vocational students on techniques in removing finishes, repairs, surface preparation, stains and staining; spraying and brushing of sealers, plastics, lacquer, shading lacquer, and stains; care and maintenance of spray equipment, and production cabinet finishing methods. Lab assignment exercises along with choice of lab projects. (CSU)

CTC 28 INDEPENDENT STUDY
Units: 1-3
Designed for students interested in furthering their knowledge at an independent study level in an area where no specific curriculum offering is currently available. Independent study problems might include, but are not limited to, research papers, special construction projects, and research projects. May be taken four times for credit. See Independent Study page in catalog. (CSU)

CTC 35 SKILL AND SPEED DEVELOPMENT
Units: 3
Prerequisite: Concurrent enrollment in or completion of CTC 1 with grade of “C” or better
Advisory: Completion of CTC 5 with grade of “C” or better
Hours: 108 (36 lecture, 72 laboratory)
Designed to further develop skill, speed, and experience capabilities for career technical education students in order to advance knowledge in construction technology. In-depth study of architectural woodwork standards; extensive problem solving in student-selected laboratory projects. May be taken four times for credit. (not transferable)

CTC 36 COMPUTERIZED CABINET ESTIMATING AND DESIGN
Units: 3
Hours: 72 (54 lecture, 18 laboratory)
Basic computer set-up and workings of cabinet estimating and design software installation. Includes basic DOS commands, material and standards set-up, developing elevation views, floor plans and three-dimensional forms, parts modification and/or creation through the draw routine or override parts options, printing of parts lists, use of panel vision for panel optimizing, and use of estimating software for bid proposals. (CSU)
**CCT 37A ADVANCED SKILL & SPEED DEVELOPMENT—CABINET**

Units: 3  
Prerequisite: Completion of CTC 35  
Hours: 108 (18 lecture, 90 laboratory)  
Designed to provide an advanced level of skill, speed, and experience for cabinetry students. Continued in-depth study of cabinetry construction such as doors, drawers, and box structures having intricate detail construction. Uses extensive problem solving in the completion of student-selected projects. May be taken four times for credit. (not transferable)

**CCT 37B ADVANCED SKILL & SPEED DEVELOPMENT—FURNITURE**

Units: 3  
Prerequisite: Completion of CTC 35  
Hours: 108 (18 lecture, 90 laboratory)  
Designed to provide an advanced level of skill, speed, and experience for furniture students. Continued in-depth study of furniture construction such as doors, drawers, and case structures having intricate detail construction. Uses extensive problem solving in the completion of student-selected projects. May be taken four times for credit. (not transferable)

**CCT 95 INTERNSHIP IN CONSTRUCTION TECHNOLOGY—CABINET**

Units: 0.5-4  
Designed for advanced students to work in an area related to their educational or occupational goal. Provides new on-the-job technical training under the direction of a worksite supervisor, allowing students to expand knowledge and skills in the chosen field. Mandatory orientation session and faculty approval to determine eligibility. Students may earn up to a total of 16 units in internship courses (any course numbered 95 and PDEV 94). (CSU—with unit limitation)

**CCT 300 SELECTED TOPICS IN CONSTRUCTION TECHNOLOGY—CABINET**

Units: 0.5-4  
Courses of study will cover topics relevant to the discipline. Topics will vary. Course content and unit credit to be determined by the division. May be offered as seminar, lecture, or lecture/laboratory classes. Students may repeat “300” courses within a discipline only when a topic is different from previously completed course. See Selected Topics page in catalog. (CSU)

**CCT 400 SELECTED TOPICS IN CONSTRUCTION TECHNOLOGY—CABINET**

Units: 0.5-4  
Courses of study will cover topics relevant to the discipline. Topics will vary. Course content and unit credit to be determined by the division. May be offered as seminar, lecture, or lecture/laboratory classes. Students may repeat “400” courses within a discipline only when a topic is different from previously completed course. See Selected Topics page in catalog. (not transferable)

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**Construction Technology (Residential Courses)**

**CTR 28 INDEPENDENT STUDY**

Units: 1-3  
Designed for students interested in furthering their knowledge at an independent study level in an area where no specific curriculum offering is currently available. Independent study might include, but is not limited to, research papers, special subject area projects, and research projects. May be taken four times for credit. See Independent Study page in catalog. (CSU)

**CTR 35 SKILL AND SPEED DEVELOPMENT IN RESIDENTIAL CONSTRUCTION**

Units: 3  
Prerequisite: Completion of CTR 42 and CTR 44  
Hours: 90 (36 lecture, 54 laboratory)  
An advanced course designed to further develop skill, speed, and experience capabilities for the vocational student in all phases of residential construction. In-depth study of material acquisition, scheduling, production framing, detailed layouts, exterior and interior finish, and hardware installation. Also includes extensive problem solving and construction of a major lab project. May be taken four times for credit. (CSU)

**CTR 37A ADVANCED SKILL AND SPEED DEVELOPMENT—CONCRETE**

Units: 3  
Prerequisite: Concurrent enrollment in or completion of CTR 42 with grade of “C” or better  
Hours: 108 (36 lecture, 72 laboratory)  
Designed to provide an advanced level of skill, speed, and experience for concrete students. Continued in-depth study of materials acquisition, scheduling, detailed layouts, forming for foundations or other applications using concrete as a base. Uses extensive problem solving in the completion of a department-selected project. May be taken four times for credit. (not transferable)

**CTR 37B ADVANCED SKILL AND SPEED DEVELOPMENT—FRAMING**

Units: 3  
Prerequisite: Concurrent enrollment in or completion of CTR 44 with grade of “C” or better  
Hours: 108 (36 lecture, 72 laboratory)  
Designed to provide an advanced level of skill, speed, and experience for framing students. Continued in-depth study of materials acquisition, scheduling, detailed layouts for framing structures, to include floors, walls, rooms, and roofs. Uses extensive problem solving in the completion of a department-selected project. May be taken four times for credit. (not transferable)
CTR 41 FINISH CARPENTRY  
Units: 3  
Prerequisite: Concurrent enrollment in or completion of CTC 1 with grade of “C” or better  
Hours: 108 (36 lecture, 72 laboratory)  
Fundamentals of woodworking hand tools, power hand tools and woodworking machinery to develop safety, knowledge, and skills leading to finish trim carpentry. Emphasis on residential construction finish carpentry standards, details, nomenclature, trims, and methods of setting interior and exterior doors, window jamb and trims, closet packs, cabinet installs, wainscoting, stair trim and railings, base and ceiling trims and finished flooring applications. (not transferable)

CTR 42 FOUNDATIONS AND FLOOR SYSTEMS  
Units: 3  
Hours: 108 (36 lecture, 72 laboratory)  
Fundamentals of residential foundation and floor system techniques involving layout and construction to include: establishing elevations, site preparation, types of foundation forms, rebar and bolt installation, concrete placement techniques, various types of floor systems, and code requirements specific to the above. Major lab project: construction of a foundation and floor system on a residence in the community. (CSU)

CTR 44 CONVENTIONAL AND GREEN FRAMING  
Units: 3  
Hours: 108 (36 lecture, 72 laboratory)  
Fundamentals of residential framing both conventional and green energy efficient techniques involving layout and construction to include: exterior and interior walls, ceilings, roof systems, stair designs and installation. Major lab project: framing a residence in the community. (CSU)

CTR 45 BUILDING INDUSTRY ANALYSIS  
Units: 4  
Advisory: Completion of CTR 42 and CTR 44  
Hours: 72 lecture  
A general survey of the building industry to include: overview, construction process, permits, financing, business ownership, contracts, insurance, labor costs, mechanics liens and contractor license. (CSU)

CTR 46 CONSTRUCTION MANUFACTURED PRODUCTS  
Units: 3  
Hours: 108 (36 lecture, 72 laboratory)  
Lectures and field trips focus on mass produced or assembly line operations as they relate to residential housing. Emphasis is on how the contractor or builder can take advantage of factory-built components or modules, component manufacturers, and the importance of their products in residential construction. (CSU)

CTR 47 RESIDENTIAL BLUEPRINT READING  
Units: 1  
Corequisite: Must be taken concurrently with CTR 48  
Advisory: Completion of CTR 42 and CTR 44 or equivalent recommended  
Hours: 18 lecture  
An introduction to residential blueprint reading, to include fundamentals of blueprint reading, symbols, dimensioning, detail drawings, specifications, hold downs, and shear schedules. (CSU)

CTR 48 ESTIMATING  
Units: 3  
Corequisite: Must be taken concurrently with CTR 47  
Advisory: Completion of CTR 42 and CTR 44  
Hours: 54 lecture  
An introduction to residential cost estimating to include material and labor costs calculations, specifications, problem solving, and bid preparations. (CSU)

CTR 52 RESIDENTIAL BUILDING CODES  
Units: 3  
Hours: 54 lecture  
Instruction in building codes for light frame one- or two-story dwelling related to local jurisdictions and the State of California. Application of codes to existing buildings with a study of regulations and abatement procedures for standard frame and ICF green technology buildings. (CSU)

CTR 54 UNIFORM BUILDING CODES  
Units: 3  
Hours: 54 lecture  
Review of current codes and update of all changes in Building Code, Uniform Mechanical Code, Uniform Fire Code, Uniform Solar Energy Code, and current State Housing Law. (not transferable)

CTR 60 RESIDENTIAL HOUSE WIRING AND CODES  
Units: 3  
Hours: 108 (36 lecture, 72 laboratory)  
Instruction basic to the electrical wiring trade. Inside wiring as applied to residential structures. Electrical service requirements for photovoltaic systems. Use of tools and materials of the trade. Review of the National Electrical Code and the applications. (CSU)

CTR 62 PLUMBING INSTALLATION AND DESIGN  
Units: 3  
Hours: 108 (36 lecture, 72 laboratory)  
Planning, installing, and maintaining simple waste, water and gas plumbing systems in accordance with good practice and in conformity to local codes and ordinances. Overview of new plumbing techniques. (CSU)
CTR 80 COMMERCIAL WIRING AND CODES

Units: 3
Hours: 54 lecture
Inside wiring as applied to commercial buildings. Use of tools and materials of the trade. Includes single-phase and three-phase wiring systems, feeder and branch circuit requirements and installations, lighting systems, and overcurrent protection. Review of National Electrical Code. (CSU)

CTR 82 INDUSTRIAL WIRING AND CODES

Units: 3
Hours: 54 lecture
Inside wiring as applied to industrial buildings. Use of tools and materials of the trade. Includes grounding, panelboards, motor and motor controls, overcurrent protection, hazardous locations, fundamentals of programmable logic controllers. Review of National Electrical Code. (CSU)

CTR 95 INTERNSHIP IN CONSTRUCTION TECHNOLOGY—RESIDENTIAL

Units: 0.5–4
Designed for advanced students to work in an area related to their educational or occupational goal. Provides new on-the-job technical training under the direction of a worksite supervisor, allowing students to expand knowledge and skills in the chosen field. Mandatory orientation session and faculty approval to determine eligibility. Students may earn up to a total of 16 units in internship courses (any course numbered 95 and PDEV 94). (CSU—with unit limitation)

CTR 300 SELECTED TOPICS IN CONSTRUCTION TECHNOLOGY

Units: 0.5–4
Courses of study will cover topics relevant to the discipline. Topics will vary. Course content and unit credit to be determined by the division. May be offered as seminar, lecture, or lecture/laboratory classes. Students may repeat “300” courses within a discipline only when a topic is different from previously completed course. See Selected Topics page in catalog. (CSU)

CTR 400 SELECTED TOPICS IN CONSTRUCTION TECHNOLOGY

Units: 0.5–4
Courses of study will cover topics relevant to the discipline. Topics will vary. Course content and unit credit to be determined by the division. May be offered as seminar, lecture, or lecture/laboratory classes. Students may repeat “400” courses within a discipline only when a topic is different from previously completed course. See Selected Topics page in catalog. (not transferable)

Deaf Studies

LIBERAL ARTS

DEAN: Debra Sutphen
ASSOCIATE DEAN: Rebecca Bocchicchio
DIVISION OFFICE: W 107
LIAISON COUNSELORS: S. Bramlett, V. Skeels

The Deaf Studies curriculum provides students with the knowledge and skills of American Sign Language (ASL). It also focuses on the uniqueness of ASL as a language, of the Deaf culture, the history of the Deaf Community, of Deaf educational practices and the Interpreting profession. The curriculum is designed to assist students in determining which area of Deaf Studies to enter or to aide them in the area they are currently pursuing.

DEAF STUDIES: AMERICAN SIGN LANGUAGE

A.A. DEGREE AND/OR CERTIFICATE

The Deaf Studies program offers courses leading to a certificate as well as an Associate in Arts degree. The Deaf Studies: American Sign Language degree program is designed to prepare students to transfer to a four-year baccalaureate program as a Deaf Studies major. The degree and certificate program helps develop Sign Language skills fluent enough to communicate as skilled signers for personal or work-related use. Students must fulfill major requirements and all associate degree requirements for the A.A. degree; see pages 42–43. A certificate is designed to provide career technical skills; it is not equivalent to an A.A. degree.

REQUIRED COURSES:

<table>
<thead>
<tr>
<th>COURSE</th>
<th>UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>DFST 1 American Sign Language I</td>
<td>4</td>
</tr>
<tr>
<td>DFST 2 American Sign Language II</td>
<td>4</td>
</tr>
<tr>
<td>DFST 3 American Sign Language III</td>
<td>4</td>
</tr>
<tr>
<td>DFST 4 American Sign Language IV</td>
<td>4</td>
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</tbody>
</table>

PLUS 13 UNITS FROM THE FOLLOWING:

<table>
<thead>
<tr>
<th>COURSE</th>
<th>UNITS</th>
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</thead>
<tbody>
<tr>
<td>DFST 5 Introduction to American Deaf History and Culture</td>
<td>3</td>
</tr>
<tr>
<td>DFST 6 Introduction to Deaf Education</td>
<td>3</td>
</tr>
<tr>
<td>DFST 7 Principles of Sign Language Interpreting</td>
<td>3</td>
</tr>
<tr>
<td>DFST 8 Creative Sign</td>
<td>2</td>
</tr>
<tr>
<td>DFST 9A Numbers and Fingerspelling</td>
<td>2</td>
</tr>
<tr>
<td>DFST 9B Classifiers in ASL</td>
<td>2</td>
</tr>
<tr>
<td>DFST 28 Independent Study</td>
<td>1–3</td>
</tr>
<tr>
<td>DFST 95 Internship in Deaf Studies</td>
<td>5–4</td>
</tr>
<tr>
<td>COMM 3 Group Communication</td>
<td>3</td>
</tr>
</tbody>
</table>

TOTAL UNITS REQUIRED: 29
Deaf Studies Courses

**DFST 1 AMERICAN SIGN LANGUAGE I**
Units: 4  
Hours: 72 lecture  
Introduction to the fundamental principles of American Sign Language (ASL). Preparation for visual/gestural communication including basic information relating to Deaf culture, intensive work on comprehension skills and grammatical structures. (CSU, UC)

**DFST 2 AMERICAN SIGN LANGUAGE II**
Units: 4  
Prerequisite: Completion of DFST 1  
Hours: 72 lecture  
Continuation of American Sign Language I (ASL I). Designed for students who wish to enhance their proficiency in ASL usage and stresses continued development of basic conversational skills with emphasis on vocabulary and expressive skills. (CSU, UC)

**DFST 3 AMERICAN SIGN LANGUAGE III**
Units: 4  
Prerequisite: Completion of DFST 2  
Hours: 72 lecture  
Continuation of American Sign Language II (ASL II). Shifts from comprehension to production of ASL. Expanded vocabularies and grammatical patterns being exposed. Continues to develop ASL competencies in numerous conversational settings. Brings ASL fluency to a point of self-generated ASL for the purpose of furthering language use in ASL. (CSU, UC)

**DFST 4 AMERICAN SIGN LANGUAGE IV**
Units: 4  
Prerequisite: Completion of DFST 3  
Hours: 72 lecture  
Continuation of American Sign Language III (ASL III). Advanced study of ASL grammar. Further development and refinements of ASL skills and fluency. Intensive work on expressive and receptive skills. Further study of Deaf cultural issues. (CSU, UC)

**DFST 5 INTRODUCTION TO AMERICAN DEAF HISTORY AND CULTURE**
Units: 3  
Hours: 54 lecture  
History of American Deaf culture, including descriptions of deafness, deaf people and the current Deaf community as defined by audiology and/or cultural means, services for and by deaf people and culture as reflected in the language of deaf people. History from the 1800’s to present, including the study of prominent people such as T.H. Gallaudet, Laurent Clerc, I. King Jordon and others. (CSU, UC)

**DFST 6 INTRODUCTION TO DEAF EDUCATION**
Units: 3  
Hours: 54 lecture  
Overview of the historical, philosophical, psychological and social aspects of deaf education. Orientation to problems, issues and research in the field of educating the deaf. Including general orientation to the Deaf community. (CSU)

**DFST 7 PRINCIPLES OF SIGN LANGUAGE INTERPRETING**
Units: 3  
Hours: 54 lecture  
Introduction to the profession of Sign Language interpreting. Includes history, definitions of interpreting, modes and methods, interpreter demand, professional standards and Code of Ethics, settings, evaluation, certification, legal mandates, employment and cultural related issues. (CSU)

**DFST 8 CREATIVE SIGN**
Units: 2  
Prerequisite: Completion of DFST 1  
Advisory: Completion of DFST 2 recommended  
Hours: 36 lecture  
Introduction to the techniques of facial expression, characterization, body movement, and spatialization as it relates to American Sign Language. Development of expressive sign language skills through the use of poetry, songs, skits, storytelling, jokes and slang signs. (CSU)

**DFST 9A NUMBERS AND FINGERSPELLING**
Units: 2  
Prerequisite: Completion of DFST 1  
Advisory: Completion of DFST 2 recommended  
Hours: 36 lecture  
Advanced experiences and communication techniques with expressive and receptive fingerspelling and use of American Sign Language (ASL) number systems. Numbers will include, but are not limited to: cardinal, ordinal, informational numbers; numbers related to time, temporal aspects signs, measurements, sports and mathematical numbers. (CSU)

**DFST 9B CLASSIFIERS IN ASL**
Units: 2  
Prerequisite: Completion of DFST 1  
Advisory: Completion of DFST 2 recommended  
Hours: 36 lecture  
Advanced experiences and communication techniques with the use of classifiers. Focus on classifier types and functions. Identification of various classifiers and their use to enhance and expand American Sign Language ability. (CSU)
**Design Drafting**  
*(See Engineering Support Technology)*

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**Drama**

**LIBERAL ARTS**

DEAN: Debra Sutphen  
ASSOCIATE DEAN: Rebecca Bocchicchio  
DIVISION OFFICE: W 107  
FACULTY: D. Hammond, M. Hunter  
LIAISON COUNSELORS: C. Epting-Davis, V. Rogers

The Drama Department offers training, both theoretical and practical, in theatrical production, including performance, technical and business management aspects, as well as the serious study of the development of those aspects from the early Greeks up to the bright lights of Broadway. We believe that the creativity, the personal interaction, and the excitement of participating in a performance are highly valuable experiences for any individual. The heightened awareness of beauty and truth are carried on into the later life of the student to perhaps enable him or her to appreciate more fully what is available.

It is recommended that students intending to major in this field take all courses offered by this department, plus Communicative Arts in the Communication Studies Department. Introductory music, art, and dramatic literature courses would also be valuable.

TRANSFER MAJOR REQUIREMENTS in Drama are available in the Counseling Center. In all cases, students should consult with a counselor for specific transfer requirements. Four-year graduates in Drama are qualified for positions in teaching, community theater, television, motion pictures, and professional theatre.

**THEATER ARTS**

**A.A. DEGREE**

The Theater Arts Program prepares students for future professional employment, upper division study in the theatrical arts, and participation in the theater and entertainment community. Classes in theater production, including acting and technical training, and basic theatrical concepts are available. The course work provides the student with experience and knowledge to transfer to a four-year college or pursue a future professional career in theater arts. In all cases, students should consult with a counselor for specific transfer requirements, both general education and major. Students must fulfill program requirements and all associate degree requirements for the A.A. degree; see pages 42-43.

**REQUIRED COURSES**

<table>
<thead>
<tr>
<th>COURSE</th>
<th>UNITS</th>
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<tbody>
<tr>
<td>DRMA 10A Fundamentals of Acting</td>
<td>3</td>
</tr>
<tr>
<td>DRMA 12 Applied Drama (two semesters)</td>
<td>2</td>
</tr>
<tr>
<td>DRMA 13 Introduction to Theater</td>
<td>3</td>
</tr>
<tr>
<td>DRMA 14 Stagecraft</td>
<td>3</td>
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<tr>
<td>DRMA 15 Stage Lighting</td>
<td>3</td>
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<tr>
<td>DRMA 17 Makeup</td>
<td>2</td>
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</table>

**PLUS 9 ADDITIONAL UNITS FROM:**

<table>
<thead>
<tr>
<th>COURSE</th>
<th>UNITS</th>
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<tbody>
<tr>
<td>DRMA 10B Advanced Acting</td>
<td>3</td>
</tr>
<tr>
<td>DRMA 11 Stage Movement</td>
<td>3</td>
</tr>
</tbody>
</table>
**DRAMA 16A Costume History**                         3  
**DRAMA 16B Costume Construction**                    3  
**DRAMA 19A Stage Properties**                        3  
**DRAMA 19B Scenic Painting**                         3  
**DRAMA 20 Play, Performance, and Perception**       3  
**DRAMA 21 Script Analysis**                          3  
**DRAMA 28 Independent Study**                       1-3  
**TOTAL UNITS REQUIRED: 25**                           

**STAGECRAFT**  
**SKILLS CERTIFICATE**  
Trains students to build scenery and properties in the technical theater. Provides experience in construction, painting, hanging lighting instruments, and working backstage. Prepares students to communicate and participate as members of a production team with an understanding of appropriate terminology and procedures. A skills certificate is designed to provide career technical skills; it is not equivalent to an A.A. or A.S. degree.

<table>
<thead>
<tr>
<th>REQUIRED COURSES</th>
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<tbody>
<tr>
<td>DRAMA 12 Applied Drama (1 unit per semester)</td>
<td>2</td>
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<tr>
<td>DRAMA 14 Stagecraft</td>
<td>3</td>
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<tr>
<td>DRAMA 15 Stage Lighting</td>
<td>3</td>
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<tr>
<td>DRAMA 19A Stage Properties OR</td>
<td>3</td>
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<tr>
<td>DRAMA 19B Scenic Painting OR</td>
<td>3</td>
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<tr>
<td>DRAMA 28 Independent Study OR</td>
<td></td>
</tr>
<tr>
<td>DRAMA 95 Internship in Drama</td>
<td>1-2</td>
</tr>
</tbody>
</table>

**TOTAL UNITS REQUIRED: 12-13**

**COSTUMING**  
**SKILLS CERTIFICATE**  
Designed for students interested in building period costumes and creating visual characters, as a cutter, stitcher or makeup artist. Focuses on the use of color, different fabrics and finishes, and provides basic sewing techniques used for the stage. A skills certificate is designed to provide career technical skills; it is not equivalent to an A.A. or A.S. degree.

<table>
<thead>
<tr>
<th>REQUIRED COURSES</th>
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<tbody>
<tr>
<td>DRAMA 12 Applied Drama (1 unit per semester)</td>
<td>2</td>
</tr>
<tr>
<td>DRAMA 16A Costume History</td>
<td>3</td>
</tr>
<tr>
<td>DRAMA 16B Costume Construction</td>
<td>3</td>
</tr>
<tr>
<td>DRAMA 17 Makeup</td>
<td>2</td>
</tr>
<tr>
<td>DRAMA 28 Independent Study OR</td>
<td></td>
</tr>
<tr>
<td>DRAMA 95 Internship in Drama</td>
<td>1-2</td>
</tr>
</tbody>
</table>

**TOTAL UNITS REQUIRED: 11-12**

**Drama Courses**  

**DRAMA 10A FUNDAMENTALS OF ACTING**  
Units: 3  
Hours: 54 lecture  
Analysis and practice of acting techniques: interpretation, pantomime, and oral expression. Characterization through improvisation and selected scenes. (CSU, UC)

**DRAMA 10B ADVANCED ACTING**  
Units: 3  
Prerequisite: Completion of DRMA 10A or equivalent  
Hours: 54 lecture  
Analysis and practice in major styles of acting with particular emphasis on the realistic convention. Activities will include one or more acting projects, monologues, scenes, and participation in a play. (CSU, UC)

**DRAMA 11 STAGE MOVEMENT**  
Units: 3  
Hours: 54 lecture  
Analysis and practice of movement styles used in the theater; basic movement, combat, relaxation, and interpretation. Character development through physical exploration and scene study. (CSU, UC)

**DRAMA 12 APPLIED DRAMA**  
Units: 1  
Hours: 80 activity  
Participation in dramatic productions either as a performer or as a technical assistant. Requires approximately 60 hours rehearsal and 20 hours performance. May be taken four times for credit. (CSU, UC)

**DRAMA 13 INTRODUCTION TO THEATER**  
Units: 3  
Hours: 54 lecture  
A study of plays, their production and performance, in the major periods of dramatic art. Designed for both majors and nonmajors interested in acquiring an appreciation of theater as a performing art. (CSU, UC)

**DRAMA 14 STAGECRAFT**  
Units: 3  
Hours: 90 (18 lecture, 72 activity)  
Set construction, painting, and techniques of mounting and shifting stage scenery. Theater architecture, rigging, and machinery. (CSU, UC)

**DRAMA 15 STAGE LIGHTING**  
Units: 3  
Hours: 90 (18 lecture, 72 activity)  
Basic execution of theatrical lighting. Study of electrical principles, lighting instruments, and control equipment. (CSU, UC)
DRMA 16A COSTUME HISTORY
Units: 3
Hours: 54 lecture
Costumes from Egyptian period to the present. Emphasis on the use of historical costumes for the stage. Costume design project for period play. Designed for both theater majors and non-majors who are interested in acquiring an appreciation of apparel through history. (CSU, UC)

DRMA 16B COSTUME CONSTRUCTION
Units: 3
Hours: 90 (18 lecture, 72 activity)
Study and implementation of stage costume construction techniques, from pattern drafting and fabric selection to sewing, serging, fitting, draping, and dyeing. (CSU, UC)

DRMA 17 MAKEUP
Units: 2
Hours: 54 (18 lecture, 36 activity)
Theory and practical application of stage makeup including crew work on major productions. Discussion and criticism of student projects. Additional hours may be assigned. (CSU, UC)

DRMA 19A STAGE PROPERTIES
Units: 3
Hours: 90 (18 lecture, 72 activity)
Study of stage properties including locating and construction props. Implementation of construction techniques; use and examination of common, unusual and specialized materials. Includes period research for prop implementation and identification. (CSU, UC)

DRMA 19B SCENIC PAINTING
Units: 3
Hours: 90 (18 lecture, 72 activity)
Scenic painting including mixing and matching paints, painting practices and standards. Implementation of painting techniques; use and theory of common, specialized and experimental materials. (CSU, UC)

DRMA 20 PLAY, PERFORMANCE, AND PERCEPTION
Units: 3
Hours: 54 lecture
Read and attend theater performances presented throughout the region. Pre-performance analysis and post-performance critiques and discussion. Geared for both theater majors and non-majors interested in the theater performance experience. (CSU, UC)

DRMA 21 SCRIPT ANALYSIS
Units: 3
Hours: 54 lecture
Introduces Dramatic Arts Majors and other students to the fundamental techniques of script analysis. Focus on students’ ability to interpret and describe concepts and ideas related to historical and contemporary dramatic literature. Emphasis on development of techniques of script analysis specific to use in acting, directing, design, and critical and social analysis. (CSU, UC)

DRMA 28 INDEPENDENT STUDY
Units: 1-3
Designed for students interested in furthering their knowledge at an independent study level in an area where no specific curriculum offering is currently available. Independent study problems might include, but are not limited to, research papers, special construction projects, and research projects. May be taken four times for credit. See Independent Study page in catalog. (CSU, UC—with unit limitation)

DRMA 95 INTERNSHIP IN DRAMA
Units: 0.5-4
Designed for advanced students to work in an area related to their educational or occupational goal. Provides new on-the-job technical training under the direction of a worksite supervisor, allowing students to expand knowledge and skills in the chosen field. Mandatory orientation session and faculty approval to determine eligibility. Students may earn up to a total of 16 units in internship courses (any course numbered 95 and PDEV 94). (CSU—with unit limitation)

DRMA 300 SELECTED TOPICS IN DRAMA
Units: 0.5-4
Courses of study will cover topics relevant to the discipline. Topics will vary. Course content and unit credit to be determined by the division. May be offered as seminar, lecture, or lecture/laboratory classes. Students may repeat “300” courses within a discipline only when a topic is different from previously completed course. See Selected Topics page in catalog. (CSU, UC—with unit limitation)

DRMA 809 SELECTED TOPICS IN FILM STUDIES
Units: 0
Hours: 8 to 54 lecture as scheduled
Introduction to a series of films. Examine films for originality, creative virtuosity, impact, structure, and direction. Selected films will illustrate a specific dimension of film genre. Genres will change with each offering. May be repeated. (noncredit)
Earth Science
(Also see Geography)

SCiences & Mathematics
Dean: Heather Roberts
Associate Dean: Michael Kane
Division Office: V 211
Faculty: A. Amigo, F. DeCourten, H. Dodson, R. Hilton
Liaison Counselors: M. Braga, C. Morris, C. West

These courses give a general educational background of the earth's geology, atmosphere, oceans, and its place in time and space.

Transfer Major Requirements are available in the Counseling Center. In all cases, students should consult with a counselor for specific transfer requirements. Positions for which four-year graduates in the disciplines in Earth Science are qualified include teaching, research, industry, regional planning, environmental analysis and others in the minerals-fuels industries.

Geology
A.S. Degree
A two-year associate degree in Geology prepares students to work in entry-level technical positions in the geological profession, including such fields as environmental assessment and mitigation, hydrology, mining, agronomy, conservation, and interpretation. Additional professional opportunities are available for students with advanced degrees, and the associate degree represents an important step towards that goal. Students must fulfill major requirements and all associate degree requirements for the A.A./A.S. degree; see pages 42-43.

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESCI 1 Physical Geology</td>
<td>3</td>
</tr>
<tr>
<td>ESCI 1L Physical Geology Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>ESCI 3 Historical Geology</td>
<td>3</td>
</tr>
<tr>
<td>ESCI 3L Historical Geology Laboratory</td>
<td>1</td>
</tr>
</tbody>
</table>

Plus 4-6 Additional Units From:
CHEM 1A General Chemistry OR
CHEM 3A AND 3B General Chemistry             5-6

OR

PHYS 10 Basic Concepts in Physics AND
PHYS 11 Physical Science Laboratory         4

OR

PHYS 2A General Physics OR
PHYS 4A Principles of Physics: Mechanics     4-5

Plus at Least 8-10 Units From:
ASTR 10 Elementary Astronomy                 3
CHEM 1B General Chemistry                    5
ESCI 2 California Geology                     3
ESCI 6 Introduction to Minerals And Rocks    3
ESCI 14 Natural Disasters                     3
ESCI 15 Introduction to Oceanography         3

ESCI 15L Introduction To Oceanography Laboratory  1
ESCI 30 Geology of National Parks and Monuments 3
ESCI 54A thru 54E Saturday Field Geology       5
ESCI 55F Weekend Field Geology                1
ESCI 56F Field Geology of Western North America 2
GEOG 4 Weather & Climate                      3
GEOG 4L Weather & Climate Laboratory          1
GEOG 90 Introduction to Geographic Information Systems (GIS) (also EST 90)  3
MATH 29 Pre-Calculus Mathematics              4
MATH 30 Analytical Geometry & Calculus        4-5
PHYS 2B General Physics                       4
PHYS 4B Principles of Physics: Electricity & Magnetism  4
PHYS 4C Principles of Physics: Heat, Waves, and Modern Physics 4

Total Units Required: 20-24

Earth Science Courses

ESCI 1 Physical Geology
Formerly known as GEOL 1
Units: 3
Advisory: Concurrent enrollment in ESCI 1L, and eligibility for ENGL 1A or equivalent
Hours: 54 lecture
Dynamic nature of earth’s geologic processes. Earthquakes, volcanoes, mountain building, landslides, rocks, minerals, fossils, erosion, glaciation, deserts, shorelines, groundwater, and plate tectonics. (CSU, UC)

ESCI 1L Physical Geology Laboratory
Units: 1
Prerequisite: Completion of or concurrent enrollment in ESCI 1
Hours: 54 laboratory
Minerals, rocks, fossils, aerial photos, topographic and geologic maps. Field trip(s) may be required during regular lab time. (CSU, UC)

ESCI 2 California Geology
Formerly known as GEOL 2
Units: 3
Advisory: Successful completion of ESCI 10 or equivalent
Hours: 54 lecture
Geologic provinces within California and their geologic history. Emphasizes geologic processes of California’s varied landscape, its faults and volcanoes, and forces that change them. (CSU, UC)

ESCI 3 Historical Geology
Formerly known as GEOL 3
Units: 3
Advisory: Successful completion of ESCI 1 or equivalent; concurrent enrollment in ESCI 3L recommended
Hours: 54 lecture
Geologic history of the earth and its life, plate tectonics, geologic processes, evolution, and paleontology. (CSU, UC)
ESCI 3L HISTORICAL GEOLOGY LABORATORY
Formerly known as GEOL 3L
Units: 1
Prerequisite: Completion of or concurrent enrollment in ESCI 3
Hours: 54 laboratory
Hands-on learning in fossils, sedimentary rock structures, textures, age relationships, environments, and units. Includes geologic map interpretation, correlation, and selected regional geologic problems. (CSU, UC)

ESCI 6 INTRODUCTION TO MINERALS AND ROCKS
Formerly known as GEOL 6
Units: 3
Hours: 90 (36 lecture, 54 laboratory)
Rocks and minerals of the earth's crust. Crystal forms and systems as means of identification. Methods of testing and identifying rock forming and metallic ore minerals. Laboratory exercises provide instruction on mineral identification using physical properties and chemical testing. Emphasis on developing field identification skills for geologists, prospectors, and collectors. Field trip(s) required. (CSU)

ESCI 10 INTRODUCTION TO EARTH SCIENCE
Units: 3
Prerequisite: Eligibility for ENGL 50 or ENGL N
Advisory: Eligibility for ENGL 1A or equivalent
Hours: 54 lecture
Introduction to concepts of geology, oceanography, meteorology, and astronomy for science or nonscience majors. (CSU, UC)

ESCI 10L INTRODUCTION TO EARTH SCIENCE LABORATORY
Units: 1
Prerequisite: Completion of or concurrent enrollment in ESCI 10
Hours: 54 laboratory
Exploration of the solid Earth, its atmosphere, oceans, and place in the solar system. Learning through investigation and systematic laboratory procedures. Field trip(s) may be required during regular lab time. (CSU, UC—with unit limitation)

ESCI 14 NATURAL DISASTERS
Units: 3
Advisory: Eligibility for ENGL 1A or equivalent
Hours: 54 lecture
Analysis of the principles underlying natural disasters such as earthquakes, volcanic eruptions, landslides, floods, severe weather, fires and their impact on the environment and human populations. (CSU, UC)

ESCI 15 INTRODUCTION TO OCEANOGRAPHY
Units: 3
Advisory: Eligibility for ENGL 1A or equivalent
Hours: 54 lecture
Physical, chemical, and biological aspects of our ocean environment with emphasis on geologic processes. (CSU, UC)

ESCI 15L INTRODUCTION TO OCEANOGRAPHY LABORATORY
Units: 1
Prerequisite: Completion of or concurrent enrollment in ESCI 15
Hours: 54 laboratory
Exploration of the ocean environment, including physical, chemical and biological aspects. Learning through investigation and systematic laboratory procedures. (CSU, UC)

ESCI 16G FIELD PALEONTOLOGY AND ANCIENT ENVIRONMENTS
Formerly known as GEOL 16G
Also known as BIOL 16G
Units: 1-4
Hours: 30 (12 lecture, 18 laboratory) per unit
Investigations into the ecology of environments in the geologic past through field work at fossil sites. Comparisons/contrasts made between ancient (fossil) communities and the current (living) communities of selected study sites. Differences and similarities between the plants and animals used as evidence to reconstruct ancient ecological communities. May be taken four times for credit. (CSU)

ESCI 28 INDEPENDENT STUDY
Units: 1-3
Designed for students interested in furthering their knowledge at an independent study level in an area where no specific curriculum offering is currently available. Independent study might include, but is not limited to, research papers, special subject area projects, and research projects. May be taken four times for credit. See Independent Study page in catalog. (CSU, UC—with unit limitation)

ESCI 50 GEOLOGY OF NATIONAL PARKS AND MONUMENTS
Formerly known as GEOL 50
Units: 3
Hours: 54 lecture
Investigation of geology and geologic history in the formation of North American national parks and monuments including the Grand Canyon, Bryce, Zion, and Yosemite. (CSU)

ESCI 54A SIERRA NEVADA AND WESTERN BASIN AND RANGE PROVINCES
Formerly known as GEOL 51A
Units: 0.5
Hours: 9 lecture
Field lecture course designed to teach students the geology of portions of the Sierra Nevada and Western Basin and Range Provinces. Sites along I-80 and old highway 40 are examined. Entrance and transportation fees may be required. (CSU)
ESCI 54B GREAT VALLEY AND COAST RANGE PROVINCES  
Formerly known as GEOL 51B  
Units: 0.5  
Hours: 9 lecture  
Field lecture course designed to teach students the geology of portions of the Great Valley and the Coast Range Provinces. Sites along I-80, the Russian River, the Pacific Coast, and the San Andreas Fault are examined. Entrance and transportation fees may be required. (CSU)

ESCI 54C GREAT VALLEY, COAST RANGES, AND SUTTER BUTTES  
Formerly known as GEOL 51C  
Units: 0.5  
Hours: 9 lecture  
Field lecture course designed to teach students the geology of portions of the Great Valley, the Coast Ranges, and the Sutter Buttes. Sites west from Roseville through Woodland and Capay Valley to Clear Lake, the Central Sacramento Valley, and the Sutter Buttes are examined. Entrance and transportation fees may be required. (CSU)

ESCI 54D WESTERN SIERRA NEVADA AND THE MOTHER LODE  
Formerly known as GEOL 51D  
Units: 0.5  
Hours: 9 lecture  
Field lecture course designed to teach students the geology of portions of the Western Sierra Nevada and the Mother Lode. Sites along Highway 49 are examined. Entrance and transportation fees may be required. (CSU)

ESCI 54E MAJOR ROCK UNITS OF THE NORTHERN SIERRA  
Formerly known as GEOL 51E  
Units: 0.5  
Hours: 9 lecture  
Field lecture course designed to teach students the geology of major rock units of the Northern Sierra Nevada. Moderate day hike is involved. Entrance and transportation fees may be required. (CSU)

ESCI 55F WEEKEND FIELD GEOLOGY  
Formerly known as GEOL 52F  
Units: 1  
Hours: 18 lecture  
Weekend (sometimes including Friday) field trips to selected locations of geologic interest in California and bordering areas. May be taken three times for credit. Hiking may be necessary. Camping, entrance and transportation fees may be required. (CSU)

ESCI 56F FIELD GEOLOGY OF WESTERN NORTH AMERICA  
Formerly known as GEOL 53F  
Units: 2  
Hours: 54 (27 lecture, 27 laboratory)  
One-week field experience to selected areas of geologic interest. Emphasis placed on the geologic history of the many parks and monuments of the West. A three-hour pre-session prior to the trip is required. Hiking may be necessary. Camping, entrance and transportation fees may be required. May be taken three times for credit. (CSU)

ESCI 91A BEGINNING ARC GIS SOFTWARE  
Formerly known as GEOL 91A  
Also known as CIS 87, EST 91A, GEOG 91A  
Units: 1  
Hours: 18 lecture  
Introduction to Geographic Information Systems (GIS) mapping software used to manage, analyze and display spatial information. Create reports and map layouts, query geographic databases, and solve spatial problems. Emphasis on using GIS software for practical applications in the fields of natural resource management, disaster mapping, cartographic design, urban planning, business and other related fields. (CSU)

ESCI 95 INTERNSHIP IN EARTH SCIENCE  
Formerly known as GEOL 95  
Units: 0.5-4  
Designed for advanced students to work in an area related to their educational or occupational goal. Provides new on-the-job technical training under the direction of a worksite supervisor, allowing students to expand knowledge and skills in the chosen field. Mandatory orientation session and faculty approval to determine eligibility. Students may earn up to a total of 16 units in internship courses (any course numbered 95 and PDEV 94). (CSU—with unit limitation)

ESCI 300 SELECTED TOPICS IN EARTH SCIENCE  
Units: 0.5-4  
Courses of study will cover topics relevant to the discipline. Topics will vary. Course content and unit credit to be determined by the division. May be offered as seminar, lecture, or lecture/laboratory classes. Students may repeat “300” courses within a discipline only when a topic is different from previously completed course. See Selected Topics page in catalog. (CSU, UC—with unit limitation)

ESCI 301 GEOLoGY, OCEANOGRAPHY AND METEOROLOGY OF COSTA RICA  
Units: 1-4  
Hours: As scheduled for the appropriate combination of lecture/ laboratory hours  
The new world (American) tropics are referred to as the neotropics. This is a survey course covering the basics in neotropical natural history including general life zones of Costa Rica (specifically), and their geologic history. Includes general physical processes of Costa Rica geology and geography. (CSU)
ECON 28 INDEPENDENT STUDY
Units: 1-3
Designed for students interested in furthering their knowledge at an independent study level in an area where no specific curriculum offering is currently available. Independent study problems might include, but are not limited to, research papers, special construction projects, and research projects. May be taken four times for credit. See Independent Study page in catalog. (CSU, UC—with unit limitation)

ECON 300 SELECTED TOPICS IN ECONOMICS
Units: 0.5-4
Courses of study will cover topics relevant to the discipline. Topics will vary. Course content and unit credit to be determined by the division. May be offered as seminar, lecture, or lecture/laboratory classes. Students may repeat “300” courses within a discipline only when a topic is different from previously completed course. See Selected Topics page in catalog. (CSU, UC—with unit limitation)

ECON 808 SELECTED TOPICS IN ECONOMICS
Units: 0
Hours: 8 to 54 lecture as scheduled
Discussion of topics in economics that affect the nation and the world. Includes issues related to social security, Medicare, foreign policy, third-world economies, world stock markets, presidential politics, corporate business dealings and other events of the time being studied. May be repeated. (noncredit)
The education department offers students the opportunity to explore the field of education by gaining experience working with students in a school setting. Students interested in an A.A. degree that helps prepare them for a career teaching in public and private elementary schools should also see the Liberal Studies major.

LIBERAL STUDIES—ELEMENTARY EDUCATION A.A. DEGREE

This program, designed for students interested in teaching in public and private elementary schools, prepares students for transfer to four-year colleges and universities. It provides exposure to the fields of natural sciences, social sciences, humanities, composition, and critical thinking. Students transferring to CSUS as Liberal Studies majors must take all courses listed below. Consult with a counselor for specific information regarding your intended transfer institution. Students must fulfill program requirements and all associate degree requirements for the A.A. degree; see pages 42-43.

REQUIRED COURSES

4 UNITS FROM NATURAL SCIENCES:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
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<tbody>
<tr>
<td>BIOL 11 Concepts of Biology</td>
<td>4</td>
</tr>
<tr>
<td>ESCI 10 Introduction to Earth Science AND</td>
<td></td>
</tr>
<tr>
<td>ESCI 10L Introduction to Earth Science Laboratory</td>
<td>4</td>
</tr>
</tbody>
</table>

PLUS 15 UNITS FROM SOCIAL SCIENCES AND HUMANITIES:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>ECON 1A Fundamentals of Economics</td>
<td>3</td>
</tr>
<tr>
<td>EDU 7 Tutoring Elementary Students in Reading (also ENGL 7)</td>
<td>3</td>
</tr>
<tr>
<td>EDU 10 Introduction to Elementary Education with Field Experience</td>
<td>3</td>
</tr>
<tr>
<td>HIST 17A History of the United States</td>
<td>3</td>
</tr>
<tr>
<td>HIST 50 World History to 1450</td>
<td>3</td>
</tr>
<tr>
<td>HIST 51 World History since 1450</td>
<td>3</td>
</tr>
<tr>
<td>HDEV 1 Human Development</td>
<td>3</td>
</tr>
<tr>
<td>POLS 1 American Government</td>
<td>3</td>
</tr>
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</table>

PLUS 3 UNITS FROM LANGUAGE & RATIONALITY:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>ENGL 1B Critical Thinking and Writing about Literature OR</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 1C Critical Thinking and Writing across the Curriculum</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 2 Structure of English</td>
<td>3</td>
</tr>
<tr>
<td>COMM 5 Communication Experience</td>
<td>3</td>
</tr>
<tr>
<td>MATH 17 Concepts of Mathematics</td>
<td>3</td>
</tr>
</tbody>
</table>

TOTAL UNITS REQUIRED: 22

EDUCATION COURSES

EDU 7 TUTORING ELEMENTARY STUDENTS IN READING

Also known as ENGL 7

Units: 3
Prerequisite: Completion of ENGL 50 or ENGL N with a grade of “C” or better or placement by matriculation assessment

Hours: 90 (36 lecture, 54 laboratory)

An opportunity to learn and practice basic methods of tutoring elementary school children in reading. Combines lecture/discussion with field experience doing extensive tutoring at local elementary school. Negative TB test and fingerprint clearance required. Satisfies one of the two required field experience courses for the CSUS Liberal Studies Program. (CSU)

EDU 10 INTRODUCTION TO ELEMENTARY EDUCATION WITH FIELD EXPERIENCE

Units: 3
Advisory: Completion of HDEV 1

Hours: 90 (36 lecture, 54 laboratory)

Explores the career of elementary school teaching during weekly class meetings and supervised field work in a local elementary school. Covers the profession and culture of teaching, observation skills, communication skills, diversity and social issues. Requires completion of a service learning project at participating schools. Fulfills one of the early field experiences for the CSUS liberal studies major. Negative TB test and fingerprint screening will be required. (CSU, UC)

EDU 28 INDEPENDENT STUDY

Units: 1-3

Designed for students interested in furthering their knowledge and skills at an independent study level in an area where no specific curriculum offering is currently available. Independent study might include, but is not limited to, research papers, special subject area projects, and research projects. May be taken four times for credit. See Independent Study page in catalog. (CSU)

EDU 95 INTERNSHIP IN EDUCATION

Units: 0.5-4

Designed for advanced students to work in an area related to their educational or occupational goal. Provides new on-the-job technical training under the direction of a worksite supervisor, allowing students to expand knowledge and skills in the chosen field. Mandatory orientation session and faculty approval to determine eligibility. Students may earn up to a total of 16 units in internship courses (any course numbered 95 and PDEV 94). (CSU—with unit limitation)
Engineering

SCIENCES & MATHEMATICS
DEAN: Heather Roberts
ASSOCIATE DEAN: Michael Kane
DIVISION OFFICE: V 211
FACULTY: M. Barron, D. Harris, D. Hill, P. Pattengale, A. Wong
LIAISON COUNSELORS: C. Axton, M. Braga, Reyes Ortega

The Engineering Department offers courses that satisfy the lower division engineering requirements of most California colleges and universities. Students may begin their study of chemical, civil, electrical, or mechanical engineering at Sierra College. Job openings abound in many engineering fields.

TRANSFER MAJOR REQUIREMENTS in Engineering are available in the Counseling Center. In all cases, students should consult with a counselor for specific transfer requirements. Four-year graduates in Engineering are qualified for positions in research, building industry, manufacturing, and business.

ENGINEERING
A.A. OR A.S. DEGREE
The Engineering major recognizes a concentration in the field of Engineering. Successful completion of the curriculum in Engineering prepares engineering students for transfer to four-year colleges or universities. Students must fulfill program requirements and all associate degree requirements for the A.A./A.S. degree; see pages 42-43.

REQUIRED COURSES

<table>
<thead>
<tr>
<th>COURSE DESCRIPTION</th>
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<tbody>
<tr>
<td>MATH 30 Analytical Geometry &amp; Calculus</td>
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<tr>
<td>MATH 31 Analytical Geometry &amp; Calculus</td>
<td>4-5</td>
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<tr>
<td>MATH 32 Analytical Geometry &amp; Calculus</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 4B Principles of Physics: Electricity and Magnetism OR</td>
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</tr>
<tr>
<td>PHYS 4C Principles of Physics: Heat, Waves and Modern Physics</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 1A General Chemistry OR</td>
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<tr>
<td>CHEM 3A-3B General Chemistry</td>
<td>5-6</td>
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<tr>
<td>ENGR 35 Statics</td>
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<tr>
<td>ENGR 45 Materials Science</td>
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PLUS 6 UNITS FROM:

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<tr>
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<tbody>
<tr>
<td>MATH 33 Differential Equations &amp; Linear Algebra</td>
<td>6</td>
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<tr>
<td>CHEM 1B General Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>ENGR 17 Introduction to Circuit Theory</td>
<td>3</td>
</tr>
<tr>
<td>ENGR 17L Circuit Theory Laboratory</td>
<td>1</td>
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<tr>
<td>ENGR 22A Engineering Drawing and CAD</td>
<td>3</td>
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<tr>
<td>ENGR 22B Descriptive Geometry and Solid Modeling</td>
<td>3</td>
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<tr>
<td>ENGR 95 Internship in Engineering</td>
<td>5-4</td>
</tr>
<tr>
<td>ENGR 150 Introduction to Engineering Profession</td>
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</tr>
<tr>
<td>PHYS 4B Principles of Physics: Electricity and Magnetism OR</td>
<td></td>
</tr>
<tr>
<td>PHYS 4C Principles of Physics: Heat, Waves and Modern Physics</td>
<td>4</td>
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</tbody>
</table>

TOTAL UNITS REQUIRED: 33-36

CIVIL ENGINEERING TECHNOLOGY CERTIFICATE
Successful completion of the curriculum in Civil Engineering Technology will prepare students for entry-level positions as civil engineering technicians. The certificate is designed to provide knowledge and career technical skills in mathematics, physics, chemistry, and civil engineering to assist engineers in fields such as surveying, construction, architecture, environmental, material testing, public utilities and land use.

REQUIRED COURSES

<table>
<thead>
<tr>
<th>COURSE DESCRIPTION</th>
<th>UNITS</th>
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<tbody>
<tr>
<td>CHEM 1A General Chemistry OR</td>
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<tr>
<td>CHEM 3A AND 3B General Chemistry</td>
<td>5-6</td>
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<tr>
<td>CIS 50 Applying Computer Software</td>
<td>3</td>
</tr>
<tr>
<td>ENGR 10 Engineering Survey Measurements</td>
<td>4</td>
</tr>
<tr>
<td>ENGR 22A Engineering Drawing and CAD</td>
<td>3</td>
</tr>
<tr>
<td>ENGR 150 Introduction to Engineering Profession</td>
<td>1</td>
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<tr>
<td>MATH 3 Trigonometry</td>
<td>4</td>
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<tr>
<td>MECH 10 Fundamentals of Electronics</td>
<td>4</td>
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<tr>
<td>PHYS 2A General Physics OR</td>
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</tr>
<tr>
<td>PHYS 4A Principles of Physics: Mechanics</td>
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PLUS AT LEAST 3 ADDITIONAL UNITS FROM:

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<tbody>
<tr>
<td>ENGR 22B Descriptive Geometry and Solid Modeling</td>
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</tr>
<tr>
<td>GEOG 90 Introduction to Geographic Information Systems (GIS) (also EST 90)</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 2B General Physics OR</td>
<td></td>
</tr>
<tr>
<td>PHYS 4B Principles of Physics: Electricity and Magnetism</td>
<td>4</td>
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</tbody>
</table>

TOTAL UNITS REQUIRED: 31-33
GENERAL ENGINEERING TECHNOLOGY CERTIFICATE

Successful completion of the curriculum in General Engineering Technology will prepare students for entry-level positions as engineering technicians. The certificate is designed to provide knowledge and career technical skills in mathematics, physics, chemistry, and engineering to assist engineers in fields such as fabrication, HVAC, building maintenance, environmental, industrial, safety, mechanical equipment and medical equipment.

REQUIRED COURSES

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>CHEM 1A General Chemistry OR</td>
<td>5-6</td>
</tr>
<tr>
<td>CHEM 3A AND 3B General Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>CIS 50 Applying Computer Software</td>
<td>1</td>
</tr>
<tr>
<td>ENGR 22A Engineering Drawing and CAD</td>
<td>4</td>
</tr>
<tr>
<td>ENGR 150 Introduction to Engineering Profession</td>
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</tr>
<tr>
<td>MATH 8 Trigonometry</td>
<td>4</td>
</tr>
<tr>
<td>MECH 10 Fundamentals of Electronics</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 2A General Physics OR</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 4A Principles of Physics: Mechanics</td>
<td>4-5</td>
</tr>
</tbody>
</table>

PLUS AT LEAST 7 ADDITIONAL UNITS FROM:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>CHEM 1B General Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>ENGR 22B Descriptive Geometry and Solid Modeling</td>
<td>3</td>
</tr>
<tr>
<td>MATH 29 Pre-Calculus Mathematics</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 2B General Physics OR</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 4B Principles of Physics: Electricity and Magnetism</td>
<td>4</td>
</tr>
</tbody>
</table>

TOTAL UNITS REQUIRED: 31-33

Engineering Courses

ENGR 10 ENGINEERING SURVEY MEASUREMENTS

Units: 4
Prerequisite: Completion of MATH 8 or equivalent with grade of “C” or better
Advisory: Completion of or concurrent enrollment in ENGR 22A
Hours: 108 (54 lecture, 54 laboratory)
Theory and practice with total stations (with and without data collectors), leveling instruments, and tapes. Creation of a boundary and topographic survey requiring traverse adjustment and area within irregular boundaries. Mock construction project requiring a construction survey including field staking. Problems including horizontal and vertical curves, slopes and alignments, cut and fill, topographic maps and volume calculation. Introduction to GPS. Designed for engineering students and required for Civil Engineering majors. (CSU, UC)

ENGR 17 INTRODUCTION TO CIRCUIT THEORY

Units: 3
Prerequisite: Completion of or concurrent enrollment in PHYS 4B and MATH 33
Hours: 54 lecture
Introduction to circuit analysis. Includes the basic circuit elements; network differential equations; response of simple circuits, natural and forced; steady state sinusoidal circuit analysis development from the network differential equations. (CSU, UC)

ENGR 17L CIRCUIT THEORY LABORATORY

Units: 1
Prerequisite: Completion of or concurrent enrollment in ENGR 17
Hours: 54 laboratory
Optional laboratory in conjunction with ENGR 17. (CSU, UC)

ENGR 22A ENGINEERING DRAWING AND CAD

Units: 3
Hours: 90 (56 lecture, 54 laboratory)
Introduction to the graphical methods, equipment and software used to produce and interpret engineering drawings. Fundamentals of technical drawing including sketching, geometric constructions, orthographic projection, dimensioning, sectional views, auxiliary views, threads and fasteners, and pictorial projection. Emphasis on the production of two-dimensional working drawings utilizing freehand sketching and computer-aided (CAD) hardware and software. (CSU)

ENGR 22B DESCRIPTIVE GEOMETRY AND SOLID MODELING

Formerly known as ENGR 23
Units: 3
Prerequisite: Completion of ENGR 22A or EST 1 and 2 or equivalent
Hours: 90 (56 lecture, 54 laboratory)
Fundamental principles of descriptive geometry with application to technical drawing and engineering problems. Visualizing spatial relationships from orthographic drawings. Includes sketches and computer-aided drafting (CAD) projects. Includes an introduction to solid modeling including part and assembly modeling. Designed for Engineering and Engineering Support Technology majors. (CSU, UC)

ENGR 28 INDEPENDENT STUDY

Units: 1-3
Designed for students interested in furthering their knowledge at an independent study level in an area where no specific curriculum offering is currently available. Independent study might include, but is not limited to, research papers, special subject area projects, and research projects. May be taken four times for credit. See Independent Study page in catalog. (CSU, UC—with unit limitation)
**ENGR 35 STATICS**
Units: 3
Prerequisite: Completion of PHYS 4A or equivalent
Advisory: Completion of ENGR 22A or 22B
Hours: 54 lecture
Force systems and equilibrium conditions applied to engineering problems. Includes graphical solutions and diagrams to aid analytical solutions. Information on analytical mechanics, development of skills to analyze and solve problems in statics encountered in engineering work. (CSU, UC)

**ENGR 45 MATERIALS SCIENCE**
Units: 3
Prerequisite: CHEM 1A (may be taken concurrently) and completion of PHYS 4A or equivalent
Hours: 90 (36 lecture, 54 laboratory)
Basic principles of physical and chemical behavior of metals, polymers, composites and ceramics in engineering applications; topics include bonding, crystalline structure and imperfections, diffusion, kinetics, phase diagrams, corrosion, and electrical properties. Laboratory experiments analyze actual behavior of materials; topics include metallography, mechanical properties of metals and heat treatment. (CSU, UC)

**ENGR 95 INTERNSHIP IN ENGINEERING**
Units: 0.5-4
Designed for advanced students to work in an area related to their educational or occupational goal. Provides new on-the-job technical training under the direction of a worksite supervisor, allowing students to expand knowledge and skills in the chosen field. Mandatory orientation session and faculty approval to determine eligibility. Students may earn up to a total of 16 units in internship courses (any course numbered 95 and PDEV 94). (CSU—with unit limitation)

**ENGR 150 INTRODUCTION TO ENGINEERING PROFESSION**
Units: 1
Hours: 18 lecture
Exploration of the engineering profession, focusing on branches of engineering and relationships between them, spectrum of work functions, professionalism and ethics. Includes orientation to Sierra College engineering program, evaluation of engineering as a personal career choice and development of a student educational plan for transfer. (CSU, UC)

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**Engineering Support Technology**
(Formerly Design Drafting)

**BUSINESS, APPLIED ACADEMICS, & PHYSICAL EDUCATION**
DEAN: Luis Sanchez
ASSOCIATE DEAN: Darlene Jackson
DIVISION OFFICE: B 3
FACULTY: A. Salome
LIAISON COUNSELORS: Reyes Ortega, V. Skeels

The Engineering Support Technology curriculum is designed to prepare students for careers in industry as engineering support technicians who plan, prepare, and interpret engineering sketches for design and drafting relative to mechanical and architectural designs, civil structures and developments, weldments, electronic circuits, or landscape architecture and design. Includes sketching and the application of Computer Aided Drafting and Design (CADD) software to the creation of graphic representations and simulations in support of engineering projects.

A.A. and A.S. degrees as well as certificates can be earned in the Engineering Support Technology Program. The certificate programs do not satisfy A.A./A.S. degree requirements but do qualify students for a certificate in the field of study.

**ENGINEERING SUPPORT—ARCHITECTURAL CONCENTRATION**
A.A. OR A.S. DEGREE AND/OR CERTIFICATE
(FORMERLY COMPUTER-AIDED DRAFTING SPECIALIST-ARCHITECTURAL CONCENTRATION)
Successful completion of the curriculum in Engineering Support-Architectural Concentration, prepares students for entry-level positions as document support technicians in the field of architecture, interior design, and kitchen/bath design. Students must fulfill major requirements and all associate degree requirements for the A.A./A.S. degree; see pages 42-43. A certificate is designed to provide career technical skills; it is not equivalent to an A.A. or A.S. degree.

**REQUIRED COURSES**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>EST 1 Technical Drafting I</td>
<td>3</td>
</tr>
<tr>
<td>EST 2 Technical Drafting II</td>
<td>3</td>
</tr>
<tr>
<td>EST 6 Computer-Aided Drafting IB</td>
<td>3</td>
</tr>
<tr>
<td>EST 20 Architectural Drawing I</td>
<td>4</td>
</tr>
<tr>
<td>EST 21 Architectural Drawing II</td>
<td>3</td>
</tr>
<tr>
<td>EST 25 Kitchen and Bath Design</td>
<td>3</td>
</tr>
<tr>
<td>EST 26 Introduction to Kitchen and Bath Design Software</td>
<td>2</td>
</tr>
<tr>
<td>EST 95 Internship in Engineering Support Technology</td>
<td>5-4</td>
</tr>
<tr>
<td>CTR 44 Conventional and Green Framing</td>
<td>3</td>
</tr>
</tbody>
</table>

**TOTAL UNITS REQUIRED:** 24.5-28

Recommended Electives: CTR 42, 47, 48, 52
ENGINEERING SUPPORT—MECHANICAL/CIVIL CONCENTRATION
A.A. OR A.S. DEGREE AND/OR CERTIFICATE
(FORMERLY COMPUTER-AIDED DRAFTING SPECIALIST-MECHANICAL/CIVIL CONCENTRATION)
Successful completion of the curriculum in Engineering Support-Mechanical/Civil Concentration, prepares students for entry-level positions as document support technicians in the fields of mechanical and civil engineering. Students must fulfill major requirements and all associate degree requirements for the A.A./A.S. degree; see pages 42-43. A certificate is designed to provide career technical skills; it is not equivalent to an A.A. or A.S. degree.

REQUIRED COURSES

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<tr>
<td>EST 1 Technical Drafting I</td>
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<tr>
<td>EST 2 Technical Drafting II</td>
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<tr>
<td>EST 6 Computer-Aided Drafting IB</td>
<td>3</td>
</tr>
<tr>
<td>EST 10 Industrial and Civil Applications of Computer-Aided Design</td>
<td>3</td>
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<tr>
<td>EST 11 Three-Dimensional Modeling</td>
<td>3</td>
</tr>
<tr>
<td>EST 12 Geometric Dimensioning and Tolerancing</td>
<td>3</td>
</tr>
<tr>
<td>EST 95 Internship in Engineering Support Technology</td>
<td>5-4</td>
</tr>
<tr>
<td>ENGR 228 Descriptive Geometry and Solid Modeling</td>
<td>3</td>
</tr>
</tbody>
</table>

TOTAL UNITS REQUIRED: 21.5-25

DRAFTING ESSENTIALS
SKILLS CERTIFICATE
Designed to give students the basic drafting support knowledge and abilities required to enter the workforce at an entry level. Focusses on skills relative to the fields of architecture and mechanical computer-aided drafting (CAD). Appropriate for students seeking retraining. A certificate is designed to provide career technical skills; it is not equivalent to an A.A. or A.S. degree.

REQUIRED COURSES

<table>
<thead>
<tr>
<th>COURSE</th>
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<tbody>
<tr>
<td>EST 1 Technical Drafting I</td>
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</tr>
<tr>
<td>EST 2 Technical Drafting II</td>
<td>3</td>
</tr>
<tr>
<td>EST 10 Industrial and Civil Applications of Computer-Aided Design</td>
<td>3</td>
</tr>
<tr>
<td>EST 20 Architectural Drawing I</td>
<td>4</td>
</tr>
</tbody>
</table>

TOTAL UNITS REQUIRED: 13

Engineering Support Technology Courses

EST 1 TECHNICAL DRAFTING I
Formerly known as DRAF 8
Units: 3
Hours: 90 (36 lecture, 54 laboratory)
Fundamental use of design equipment to create both two dimensional technical sketches and two and three dimensional computer generated working drawings that are used for product definition. Introduction to product and process definition as specified by engineering design disciplines. Designed for students with no previous experience in engineering design/drafting. (CSU)

EST 2 TECHNICAL DRAFTING II
Formerly known as DRAF 9
Units: 3
Prerequisite: Completion of EST 1 or equivalent
Hours: 90 (36 lecture, 54 laboratory)
Intermediate concepts of engineering design including sections, auxiliaries, threads, fasteners, and dimensional tolerancing. Basic concepts of Geometric Dimensioning and Tolerancing. Design for Manufacturability and Assembly explored to include material selection and properties of materials. Designed for students who have attained a fundamental knowledge of the processes and practices of engineering design/drafting. (CSU)

EST 5 COMPUTER-AIDED DRAFTING IA
Formerly known as DRAF 35A
Units: 3
Prerequisite: One year high school drafting or equivalent
Hours: 90 (36 lecture, 54 laboratory)
Introduction to the use of computer-aided drafting/design systems to include hardware and software. Emphasis on the production of two-dimensional working drawings. Designed for disciplines that require computer-aided drafting skill sets, such as architectural studies, mechanical engineering, civil engineering, landscape, fashion, interior design, technical theater, and geographical information systems (GIS). (CSU)

EST 6 COMPUTER-AIDED DRAFTING IB
Formerly known as DRAF 35B
Units: 3
Prerequisite: Completion of EST 5, or EST 1 and EST 2, or equivalent
Hours: 90 (36 lecture, 54 laboratory)
Continuation of EST 5. Application of advanced computer-aided drafting (CAD) features to produce 2D and 3D working drawings. Emphasis on attribute extraction, data interchange file (DXF), file translation, and external referencing. Introduction to wire-frame, surface and solid modeling. (CSU)

EST 10 INDUSTRIAL AND CIVIL APPLICATIONS OF COMPUTER-AIDED DESIGN
Formerly known as DRAF 20
Units: 3
Prerequisite: Completion of EST 2 or equivalent
Hours: 90 (36 lecture, 54 laboratory)
Skills applied to drawings used in the areas of mechanical and civil engineering support. Tolerance dimensioning stressed and applied to engineering drawings. Practices and processes for measurement and gauging. Emphasis on land division, determination of location and direction, development of plots based upon legal description and the fundamentals of surveying as applied to preliminary and final maps. Designed for students who have attained an intermediate knowledge of the processes and practices of engineering design/drafting support. (CSU)
EST 11 THREE-DIMENSIONAL MODELING
Formerly known as DRAF 39
Units: 3
Prerequisite: Completion of EST 5; or EST 1 and EST 2; or equivalent
Hours: 90 (36 lecture, 54 laboratory)
Processes employed in developing design solutions using a feature based parametric solid modeler. Includes part and assembly modeling, and the development of 2-dimensional part and assembly drawings. SolidWorks is the solid modeler used. (CSU, UC)

EST 12 GEOMETRIC DIMENSIONING AND TOLERANCING
Formerly known as DRAF 40
Units: 3
Prerequisite: Completion of EST 2 or equivalent
Hours: 54 lecture
Course expands upon basic knowledge of dimensioning mechanical drawings by adding form and feature controls in order to clearly define parts. Review of basic dimensioning and tolerancing. Topics, as defined in ANSI Y14.5M-1994 Standard, include geometric tolerancing symbols and terms, rules of geometric dimensioning and tolerancing, datums, material condition symbols, tolerances of form and profile, tolerances of orientation and runout, location tolerances and virtual condition. (CSU)

EST 20 ARCHITECTURAL DRAWING I
Units: 4
Prerequisite: Completion of EST 1 and EST 2 or equivalent, or EST 5 or equivalent
Hours: 144 (36 lecture, 108 laboratory)
Introduction to the fundamentals of residential construction and its design. Drawings of a residence are designed and completed, to include sketches, plot and floor plans, foundation, elevations, schedules, framing, electrical, plumbing, and section views. (CSU)

EST 21 ARCHITECTURAL DRAWING II
Formerly known as DRAF 12
Units: 3
Prerequisite: Completion of EST 20 or equivalent
Hours: 90 (36 lecture, 54 laboratory)
Continuation of the residential design started in EST 20 to include major detailing to conform to the Uniform Building Code (UBC) and local county codes. Drawings to include: fireplaces, stairs, interiors, mechanical specifications, Title 24, a two-point perspective drawing and 3D scale model. (CSU)

EST 25 KITCHEN AND BATH DESIGN
Formerly known as DRAF 65
Units: 3
Hours: 90 (36 lecture, 54 laboratory)
Fundamentals of designing, drawing, and rendering kitchens and bathrooms for both remodeling and new construction. Topics include applications of cabinets, fixtures, appliances, countertops, flooring, wall treatment, lighting, plumbing, electrical, and heating. (CSU)

EST 26 INTRODUCTION TO KITCHEN AND BATH DESIGN SOFTWARE
Formerly known as DRAF 66
Units: 2
Advisory: Completion of CIS 30
Hours: 54 (36 lecture, 18 laboratory)
Use of kitchen and bath design software to design, manage, and cost out kitchen and bath solutions. Creation of presentation drawings, cut sheets, floor plans, fixture and cabinet style selections for the design. (not transferable)

EST 28 INDEPENDENT STUDY
Formerly known as DRAF 28
Units: 1-3
Designed for students interested in furthering their knowledge at an independent study level. Independent study might include, but is not limited to, research papers, special subject area projects, and research projects. May be taken four times for credit. See Independent Study page in catalog. (CSU)

EST 40 MANAGING THE COMPUTER-AIDED DESIGN (CAD) ENVIRONMENT
Formerly known as DRAF 45
Units: 3
Prerequisite: Completion of EST 2 or equivalent
Hours: 54 lecture
Explores the role of the Computer-Aided Design (CAD) manager. Details on how to create and institute CAD standards, policies, and procedures. Topics include the impact of computer networking, Internet, and Extranets on the CAD environment. (not transferable)

EST 90 INTRODUCTION TO GEOGRAPHIC INFORMATION SYSTEMS (GIS)
Also known as GEOG 90
Units: 3
Hours: 54 lecture
Interdisciplinary course to introduce theoretical background of Geographic Information Systems (GIS). Explores how GIS solves spatial problems, such as those in natural resources, earth and life sciences, environmental planning, local government, business and marketing, transportation, and other fields. (CSU)
EST 91A BEGINNING ARC GIS SOFTWARE
Formerly known as DRAF 91A
Also known as CIS 87, ESCI 91A, GEOG 91A
Units: 1
Hours: 18 lecture
Introduction to Geographic Information Systems (GIS) mapping software used to manage, analyze and display spatial information. Create reports and map layouts, query geographic databases, and solve spatial problems. Emphasis on using GIS software for practical applications in the fields of natural resource management, disaster mapping, cartographic design, urban planning, business and other related fields. (CSU)

EST 95 INTERNSHIP IN ENGINEERING SUPPORT TECHNOLOGY
Formerly known as DRAF 95
Units: 0.5-4
Designed for advanced students to work in an area related to their educational or occupational goal. Provides new on-the-job technical training under the direction of a worksite supervisor, allowing students to expand knowledge and skills in the chosen field. Mandatory orientation session and faculty approval to determine eligibility. Students may earn up to a total of 16 units in internship courses (any course numbered 95 and PDEV 94). (CSU—with unit limitation)

EST 300 SELECTED TOPICS IN ENGINEERING SUPPORT TECHNOLOGY
Formerly known as DRAF 300
Units: 0.5-4
Courses of study will cover topics relevant to the discipline. Topics will vary. Course content and unit credit to be determined by the division. May be offered as seminar, lecture, or lecture/laboratory classes. Students may repeat “300” courses within a discipline only when a topic is different from previously completed course. See Selected Topics page in catalog. (CSU)

English

LIBERAL ARTS
DEAN: Debra Sutphen
ASSOCIATE DEAN: Rebecca Bocchichio
DIVISION OFFICE: W 107
LIAISON COUNSELORS: C. Axton, P. Neal, V. Rogers

The Department of English faculty subscribes to the idea that the language and literary arts are a basic and a chief way of discovering who we are, especially if “we” is defined broadly to take in the whole of past and present culture as it resides in the English language. We offer students the means of appreciating excellence in the literary language of the past and of developing excellence in their present uses of language. We believe that this experience can enhance a sense of personal identity as that sense is put in relation to “our” manifestations of identity in the past.

TRANSFER MAJOR REQUIREMENTS in English are available in the Counseling Center. In all cases, students should consult with a counselor for specific transfer requirements.

ENGLISH
A.A. DEGREE
The English major is awarded for concentrated study in English with an emphasis on literature. Successful completion of the curriculum in English will prepare students for transfer to four-year colleges or universities. The major has been designed to meet lower-division requirements for English majors at most transfer institutions. Students should choose the emphasis or track appropriate to their transfer institution or areas of interest. In all cases, students should consult with a counselor before selecting the core or elective courses to meet the requirements of the transfer institution. Students must fulfill major requirements and all associate degree requirements for the A.A. degree; see pages 42-43.

REQUIRED COURSES UNITS

CORE COURSE:
ENGL 1B Critical Thinking and Writing about Literature ........ 3

PLUS 3 UNITS FROM THE FOLLOWING:
ENGL 30A American Literature—Beginnings through Civil War .... 3
ENGL 30B American Literature—Civil War to the Present ......... 3

PLUS 3 UNITS FROM THE FOLLOWING:
ENGL 46A English Literature ...................................... 3
ENGL 46B English Literature ...................................... 3

PLUS 3 UNITS FROM THE FOLLOWING:
ENGL 29 Introduction to Drama as Literature .................. 3
ENGL 32 Introduction to Poetry ................................. 3
ENGL 34 Introduction to the Novel ............................ 3
ENGL 35 Introduction to the Short Story .......................... 3

PLUS 9 UNITS FROM OTHER COURSES LISTED ABOVE OR FROM:
ENGL 18 Creative Writing (Non-Fiction) .......................... 3
ENGL 19 Introduction to Creative Writing .......................... 3
ENGL 20 Creative Writing (Poetry) ............................... 3
ENGL 21 Creative Writing (Fiction) ............................... 3
ENGL 24 Reading Literature: Introduction to Critical Issues and Concepts .......................... 3
ENGL 25 African-American Literature ............................... 3
ENGL 26 Introduction to Native American Literature .......................... 3
ENGL 27 Literature by Women ................................. 3
ENGL 33 Introduction to Shakespeare (The Drama) .................... 3
ENGL 37 American Film Masterpieces ............................... 3
ENGL 38 International Film Masterpieces ............................... 3
ENGL 40 The Filmed Novel ................................. 3
ENGL 41 The Documentary Film: Argumentative Discourse .......................... 3
ENGL 42 The Documentary Film ................................. 3
ENGL 43 Introduction to California Literature .......................... 3
ENGL 47A World Literature ................................. 3
ENGL 47B World Literature ................................. 3
ENGL 48 Literature of Science Fiction ............................... 3
ENGL 49 Literature of American Nature Writing .......................... 3
HUM 20 Introduction to the Old Testament .......................... 3
HUM 21 Introduction to the New Testament .......................... 3
TOTAL UNITS REQUIRED: 21

English Courses

ENGL A MECHANICS AND BASIC COMPOSITION
Units: 3
Prerequisite: Placement by matriculation assessment process OR completion of ENGL 501 with a grade of “C” or better
Hours: 54 lecture
Reviews essay organization and development, sentence structure, usage, punctuation, and mechanics. Includes writing a variety of paragraphs, essays and other assignments to a minimum of 4,000 words. A departmental proficiency essay exam is required for successful completion. For students who need review to become eligible for ENGL 1A. Not open to students who have completed ENGL N. (not transferable)

ENGL N INTEGRATED READING AND COMPOSITION
Units: 6
Prerequisite: Completion of ENGL 570 and 501 with grades of “C” or better, or placement by matriculation assessment process
Hours: 108 lecture
Introduction to college level reading and writing, emphasizing them as interrelated processes. Focuses on strategies to improve comprehension, including vocabulary development, textual analysis, analysis of main ideas, tone, bias, inference. Reviews essay organization and development, sentence structure, usage, punctuation, mechanics. Includes reading and writing a variety of paragraphs and essays. Departmental proficiency essay exam required for successful completion. Course equivalent to ENGL A and ENGL 50, combined. Not open to students who have completed ENGL A and/or 50. (not transferable)

ENGL 1A INTRODUCTION TO COMPOSITION
Units: 3
Prerequisite: Placement by matriculation assessment process OR completion of ENGL A, ENGL N or ESL 30W with a grade of “C” or better
Hours: 54 lecture
Writing, reading and critical thinking skills necessary for successful completion of a four-year college program. Includes reading, discussion, and analysis of selected non-fiction texts. Writing assignments (6,500 words of formal writing) teach students to summarize, explain, analyze, synthesize, and organize information logically and to propose and defend original ideas. Instruction in research, MLA documentation and completion of a fully-documented paper using multiple sources. (CSU, UC)

ENGL 1B CRITICAL THINKING AND WRITING ABOUT LITERATURE
Units: 3
Prerequisite: Completion of ENGL 1A or ESL 40W with a grade of “C” or better
Hours: 54 lecture
Develops critical thinking, reading, and writing skills applicable to the analysis of prose, poetry, drama, and criticism from diverse cultural sources and perspectives. Emphasis on the techniques and principles of effective written argument. 6,500 words of formal writing and some research required. (CSU, UC)

ENGL 1C CRITICAL THINKING AND WRITING ACROSS THE CURRICULUM
Units: 3
Prerequisite: Completion of ENGL 1A or ESL 40W with a grade of “C” or better
Hours: 54 lecture
Develops critical thinking, reading, and writing skills as they apply to textual analysis of primary and secondary, essays, articles, and book-length works from a range of academic and cultural contexts. Emphasis on the techniques and principles of effective written argument in research-based writing across the curriculum. Requires 6,500 words of formal writing. (CSU, UC)
ENGL 2 STRUCTURE OF ENGLISH
Units: 3
Prerequisite: Completion of ENGL 1A with a grade of “C” or better
Hours: 54 lecture
Study of structure of English grammar, especially relating to writing. Introduction to terminology and structure of traditional grammar; analysis of standard rules for agreement, punctuation, pronoun reference, etc.; introduction to history of English language and varied methods of language acquisition among culturally diverse populations. For students who plan to teach or who are particularly interested in grammar as it relates to writing. Intended to meet CSUS requirement for Liberal Studies major. (CSU, UC)

ENGL 7 TUTORING ELEMENTARY STUDENTS IN READING
Also known as EDU 7
Units: 3
Prerequisite: Completion of ENGL 50 or ENGL N with a grade of “C” or better or placement by matriculation assessment
Hours: 90 (36 lecture, 54 laboratory)
An opportunity to learn and practice basic methods of tutoring elementary school children in reading. Combines lecture/discussion with field experience doing extensive tutoring at local elementary school. Negative TB test and fingerprint clearance required. Satisfies one of the two required field experience courses for the CSUS Liberal Studies Program. (CSU)

ENGL 11 ANALYTICAL AND CRITICAL THINKING IN READING
Units: 3
Prerequisite: Placement by matriculation assessment process OR completion of ENGL 50 with a grade of “C” or better
Advisory: Eligibility for ENGL 1A or ESL 40W
Hours: 54 lecture
Designed to assist students in logical and critical examination of texts and other printed material. Emphasizes instruction in the principles of critical thinking, logic and fallacies, reasoning strategies, author’s purpose and bias, research evaluation, propaganda, advertising, and reading for academic purpose. (CSU)

ENGL 12 WRITING IN THE WORKPLACE
Units: 3
Prerequisite: Placement by matriculation assessment process OR completion of ENGL A or ESL 30W with a grade of “C” or better
Hours: 54 lecture
Principles and practices of workplace writing. Includes organizing, writing, and revising clear, readable documents for the workplace, such as letters, memos, summaries, trip, incident, and progress reports, instructions, and graphs. (CSU)

ENGL 14 VOCABULARY DEVELOPMENT
Units: 3
Hours: 54 lecture
Designed to improve students’ receptive and expressive vocabularies through reading, writing and oral expression. Content will emphasize using context, etymology, roots and affixes, analogies and high frequency general college vocabulary. Common uses of vocabulary in humor are presented and will include idioms, phrasal verbs, oxymorons, aphorisms, euphemisms, hyperbole, doublespeak, malapropisms and puns. (CSU)

ENGL 18 CREATIVE WRITING (NON-FICTION)
Units: 3
Prerequisite: Eligibility for ENGL 1A or ESL 40W
Hours: 54 lecture
Composition of non-fiction prose, with non-fiction reading and analysis assignments drawn from the following genres: autobiography and memoir, philosophical/contemplative reflections, travel writing, nature writing and political/social commentary. Includes discussion and criticism, in workshop mode, of original student writing. (CSU, UC)

ENGL 19 INTRODUCTION TO CREATIVE WRITING
Units: 3
Prerequisite: Eligibility for ENGL 1A or ESL 40W
Hours: 54 lecture
Composition of imaginative writing, with reading assignments of literary models in poetry, fiction, and drama. Includes analysis of the models as well as discussion and criticism, in a workshop mode, of original student poems, fiction, and plays. (CSU, UC—with unit limitation)

ENGL 20 CREATIVE WRITING (POETRY)
Units: 3
Prerequisite: Eligibility for ENGL 1A or ESL 40W
Hours: 54 lecture
Writing poetry, with reading assignments of literary models in classical, modern, and contemporary poetry. Includes analysis of the models as well as discussion and criticism, in a workshop mode, of original student poems. (CSU, UC)

ENGL 21 CREATIVE WRITING (FICTION)
Units: 3
Prerequisite: Eligibility for ENGL 1A or ESL 40W
Hours: 54 lecture
Writing fiction, with reading assignments of literary models in short story and/or novel. Includes analysis of the models as well as discussion and criticism, in a workshop mode, of original student prose. (CSU, UC)
ENGL 24 READING LITERATURE: INTRODUCTION TO CRITICAL ISSUES AND CONCEPTS
Units: 3
Prerequisite: Eligibility for ENGL 1A or ESL 40W
Hours: 54 lecture
An introduction to the issues, concepts, and contexts central to literary interpretation, with particular concentration on the relationships of culture, politics (including issues of race, gender, and class), history, aesthetics to literary meaning and form. (CSU, UC)

ENGL 25 AFRICAN-AMERICAN LITERATURE
Units: 3
Prerequisite: Eligibility for ENGL 1A or ESL 40W
Hours: 54 lecture
Introduction to African-American literature from the late 18th century to the present, including fiction and non-fiction narrative, poetry, and drama. Exploration of literary structure, themes, social, literary, and artistic contexts, including the history and development of American literary identity. (CSU, UC)

ENGL 26 INTRODUCTION TO NATIVE AMERICAN LITERATURE
Units: 3
Prerequisite: Eligibility for ENGL 1A or ESL 40W
Hours: 54 lecture
A thematic approach to Native American literature, focusing on the continuity and diversity of Native American literature from oral traditions to contemporary Native American writers. (CSU, UC)

ENGL 27 LITERATURE BY WOMEN
Units: 3
Prerequisite: Eligibility for ENGL 1A or ESL 40W
Hours: 54 lecture
Critical analysis and historical survey of selected works by women from Middle Ages to the present. Emphasizes British and American cultural foundations and literary traditions to further examine the universal and intercultural dynamic of gender roles, personal identity, and political consciousness. (CSU, UC)

ENGL 28 INDEPENDENT STUDY
Units: 1-3
Designed for students interested in furthering their knowledge at an independent study level in an area where no specific curriculum offering is currently available. Independent study problems might include, but are not limited to, research papers, special construction projects, and research projects. May be taken four times for credit. See Independent Study page in catalog. (CSU, UC—with unit limitation)

ENGL 29 INTRODUCTION TO DRAMA AS LITERATURE
Units: 3
Prerequisite: Eligibility for ENGL 1A or ESL 40W
Hours: 54 lecture
Introduction to drama as literature emphasizing the critical analysis of individual plays; the analysis and exploration of the social, historical, and critical contexts of the writing and performance of dramatic literature; and exploration and analysis of the changing nature of its performance and reception. Class will explore significant works of drama from a variety of cultures and historical periods. Intended for both English and Drama majors and non-majors. (CSU, UC)

ENGL 30A AMERICAN LITERATURE—BEGINNINGS THROUGH CIVIL WAR
Units: 3
Prerequisite: Eligibility for ENGL 1A or ESL 40W
Hours: 54 lecture
Survey of major authors, themes and genres of American literature from its beginnings through the Civil War. (CSU, UC)

ENGL 30B AMERICAN LITERATURE—CIVIL WAR TO THE PRESENT
Units: 3
Prerequisite: Eligibility for ENGL 1A or ESL 40W
Hours: 54 lecture
Survey of major authors, themes and genres of American literature from the Civil War to the present. (CSU, UC)

ENGL 32 INTRODUCTION TO POETRY
Units: 3
Prerequisite: Eligibility for ENGL 1A or ESL 40W
Hours: 54 lecture
Develops a critical appreciation of poetry as genre through study of selected poets and historical periods; examines poetic structures, styles, themes, and contexts. Students read representative works in English as well as selected works in translation. (CSU, UC)

ENGL 33 INTRODUCTION TO SHAKESPEARE (THE DRAMA)
Units: 3
Prerequisite: Eligibility for ENGL 1A or ESL 40W
Hours: 54 lecture
Reading and discussion of selected plays of Shakespeare; includes discussion of the historical context and contemporary critical views. (CSU, UC)

ENGL 34 INTRODUCTION TO THE NOVEL
Units: 3
Prerequisite: Eligibility for ENGL 1A or ESL 40W
Hours: 54 lecture
Reading and discussion of selected novels from the eighteenth century to present. Includes discussion of the historical context and contemporary critical views. (CSU, UC)
ENGL 35 INTRODUCTION TO THE SHORT STORY
Units: 3
Prerequisite: Eligibility for ENGL 1A or ESL 40W
Hours: 54 lecture

ENGL 37 AMERICAN FILM MASTERPIECES
Units: 3
Hours: 72 (36 lecture, 36 activity)
Development of a critical appreciation of the motion picture as art and literature. Emphasis on American films. (CSU, UC—with unit limitation)

ENGL 38 INTERNATIONAL FILM MASTERPIECES
Units: 3
Hours: 72 (36 lecture, 36 activity)
Development of a critical appreciation of the motion picture as art and literature. Emphasis on International films. (CSU, UC—with unit limitation)

ENGL 40 THE FILMED NOVEL
Units: 3
Prerequisite: Eligibility for ENGL 1A or ESL 40W
Hours: 54 lecture
An introduction to the genres of the novel and the film. Includes historical background and basic terminology for these art forms. Examines the challenges of adapting one art form into another, while studying specific novels and their film adaptations. (CSU, UC)

ENGL 41 THE DOCUMENTARY FILM: ARGUMENTATIVE DISCOURSE
Units: 3
Prerequisite: Completion of ENGL 1A
Hours: 54 lecture
Examines documentary films as a mode of argumentative discourse. Emphasizes documentaries exploring selected contemporary cultural, social, and political controversies. Explores the use of documentary films to analyze cultural, political, and social issues, to promote political action and discourse, and to shape opinion. (CSU, UC)

ENGL 42 THE DOCUMENTARY FILM
Units: 3
Prerequisite: Eligibility for ENGL 1A or ESL 40W
Hours: 54 lecture
Development of a critical appreciation of modern documentary film across a variety of subject matter: sports, advertising, politics, music, art, biography, foreign affairs, business, science, and history. (CSU, UC)

ENGL 43 INTRODUCTION TO CALIFORNIA LITERATURE
Units: 3
Advisory: Eligibility for ENGL 1A or ESL 40W recommended
Hours: 54 lecture
An overview of the themes and types of California literature. Native American oral tradition, the Explorers, the Gold Rush, Realism and Naturalism, the Lost Generation, Detective Fiction, the Agrarian Writers, the Beats, environmental poets, and contemporary writers. (CSU, UC)

ENGL 44 INTRODUCTION TO CHILDREN’S LITERATURE
Also known as HDEV 44
Units: 3
Prerequisite: Eligibility for ENGL 1A or ESL 40W
Hours: 54 lecture
Examination of classic and contemporary children’s literature, including criteria for selection, uses in child development and education, and practices in presentation and analysis. Designed for parents, prospective teachers, aides, child development professionals and students interested in the field of literature for children ages 1-13. (CSU)

ENGL 45 INTRODUCTION TO ADOLESCENT LITERATURE
Also known as HDEV 45
Units: 3
Prerequisite: Eligibility for ENGL 1A or ESL 40W
Hours: 54 lecture
An examination of works which have earned merit as classics written for young adults, including discussion of literary form, the criteria for selection, practice in presentation and analysis, and aesthetic appreciation in young readers. May include representative writers such as Shakespeare, Dickens, Twain, and Tolkien as well as contemporary, multiculturally diverse writers such as Salinger, Angelou, Tan, Walker, and Wright. (CSU)

ENGL 46A ENGLISH LITERATURE
Units: 3
Prerequisite: Eligibility for ENGL 1A or ESL 40W
Hours: 54 lecture
Survey of English literature from the Anglo-Saxon period through the mid 18th century. Includes study of selected major authors and texts of each period as well as significant or representative minor authors and texts. Incorporates analysis of the change and development of literary forms, development and transformation of central themes, and historical and cultural contexts of the literature. Required for English majors. Students may begin with either 46A or 46B. (CSU, UC)
ENGL 46B ENGLISH LITERATURE  
Units: 3  
Prerequisite: Eligibility for ENGL 1A or ESL 40W  
Hours: 54 lecture  
A study of representative fiction, poetry, drama, and non-fiction prose of British authors from the Romantic Movement through the late 20th century. Includes works of principal Romantic, Victorian, and 20th century poets, novelists, playwrights, and/or essayists as well as selected works of significant and representative minor authors. Incorporates analysis of historical and cultural contexts of the literature. Required for English majors. (CSU, UC)

ENGL 47A WORLD LITERATURE  
Units: 3  
Prerequisite: Eligibility for ENGL 1A or ESL 40W  
Hours: 54 lecture  
A survey of world literature from the ancient world through the European Renaissance. Includes representative works from around the world. (CSU, UC)

ENGL 47B WORLD LITERATURE  
Units: 3  
Prerequisite: Eligibility for ENGL 1A or ESL 40W  
Hours: 54 lecture  
A survey of world literature from the seventeenth through twenty-first centuries. Includes representative works from around the world. (CSU, UC)

ENGL 48 LITERATURE OF SCIENCE FICTION  
Units: 3  
Advisory: Eligibility for ENGL 1A or ESL 40W recommended  
Hours: 54 lecture  
The major themes and types of science fiction literature, its primary artists, and its literary and historical relevance. (CSU, UC)

ENGL 49 LITERATURE OF AMERICAN NATURE WRITING  
Formerly known as ENGL 300T  
Units: 3  
Advisory: Eligibility for ENGL 1A or ESL 40W  
Hours: 54 lecture  
Examination of authors writing about the natural environment, from 15th century explorers writing their first impressions of America to 21st century activists tackling environmental issues. Explores a variety of themes concerning the relationships between nature, culture, and literature. Major authors include Abbey, Audubon, Carson, Columbus, Leopold, Muir, Snyder, and Thoreau. (CSU, UC)

ENGL 50 MASTERING COLLEGE ACADEMIC LITERACY  
Units: 3  
Prerequisite: Completion of ENGL 570 and 570L with grades of “C” or better or placement by matriculation assessment process; AND completion of or concurrent enrollment in ENGL 50L  
Hours: 54 lecture  
Emphasis on vocabulary development, reading comprehension and study strategies for college-level textbooks and essays. Critical reading skills include analysis of college level texts, research skills, analysis of media-based information and college-level academic literacy skills. Not open to students who have completed English N. (not transferable)

ENGL 50L MASTERING COLLEGE ACADEMIC LITERACY LABORATORY  
Units: 1  
Prerequisite: Completion of ENGL 570 and 570L with grades of “C” or better or placement by matriculation assessment process  
Hours: 54 laboratory  
Application of inferential comprehension and research strategies to a variety of college level texts. (not transferable)

ENGL 60 BASIC GRAMMAR AND PUNCTUATION  
Units: 1  
Advisory: Completion of ENGL 501 with a grade of “C” or better, or placement by matriculation assessment process  
Hours: 18 lecture  
Review of fundamentals of English grammar and usage with a focus on helping students edit their own writing. Reviews parts of speech, parts and types of sentences, pronoun usage, subject-verb agreement, and punctuation. Not intended as a comprehensive course in English grammar. (not transferable)

ENGL 300 SELECTED TOPICS IN ENGLISH  
Units: 0.5-4  
Courses of study will cover topics relevant to the discipline. Topics will vary. Course content and unit credit to be determined by the division. May be offered as seminar, lecture, or lecture/laboratory classes. Students may repeat “300” courses within a discipline only when a topic is different from previously completed course. See Selected Topics page in catalog. (CSU, UC—with unit limitation)

ENGL 300F IDENTITY AND CULTURE IN FRENCH LITERATURE  
Units: 3  
Advisory: Eligibility for ENGL 1A or ESL 40W recommended  
Hours: 54 lecture  
Introduction to the major themes of French literature from the 16th century to the present. Scientific, philosophical and cultural developments in France are presented as background for the study of literary forms and movements. (CSU, UC)
ENGL 300V LITERATURE OF THE VIETNAM WAR ERA
Units: 3
Hours: 54 lecture
Survey of the major themes of U.S.-Vietnam war era literature, its primary authors, and its literary and historical relevance. Includes representative works from various genres including memoir, the short story, the novel, and non-fiction, including oral histories. Emphasis on historical, political, social and personal perspectives. (CSU, UC)

ENGL 400 SELECTED TOPICS IN ENGLISH
Units: 0.5-4
Courses of study will cover topics relevant to the discipline. Topics will vary. Course content and unit credit to be determined by the division. May be offered as seminar, lecture, or lecture/laboratory classes. Students may repeat "400" courses within a discipline only when a topic is different from previously completed course. See Selected Topics page in catalog. (not transferable)

ENGL 501 DEVELOPMENTAL WRITING
Units: 4
Hours: 90 (54 lecture, 36 activity)
Focuses on basic writing skills through practice in writing and reading. Includes reading, studying and responding in writing to short, nonfiction selections from a variety of sources at a level appropriate to the course. Emphasizes the writing process leading to development of skills in writing sentences, single paragraphs, and multi-paragraph assignments. Designed for students who need review prior to enrolling in ENGL A. (not degree applicable)

ENGL 510 WRITING FOR PROFICIENCY
Units: 1
Hours: 18 lecture
Review and practice in understanding writing assignments; structuring and developing paragraphs and essays; editing and correcting errors in grammar and mechanics. (pass/no pass grading) (not degree applicable)

ENGL 560 FOUNDATIONS OF COLLEGE ACADEMIC LITERACY
Units: 3
Prerequisite: Completion of or concurrent enrollment in ENGL 560L
Advisory: Placement by matriculation assessment process
Hours: 54 lecture
Designed to assist students in developing foundational strategies for success in college level reading and learning. Increases competency in vocabulary, word usage, spelling, and writing strategies. (not degree applicable)

ENGL 560L FOUNDATIONS OF COLLEGE ACADEMIC LITERACY LABORATORY
Units: 1
Prerequisite: Completion of or concurrent enrollment in ENGL 560
Advisory: Placement by matriculation assessment process
Development of a variety of comprehension strategies to apply to a range of texts. (not degree applicable)

ENGL 570 DEVELOPING COLLEGE ACADEMIC LITERACY
Units: 3
Prerequisite: Completion of ENGL 560 and 560L with grades of "C" or better or placement by matriculation assessment process; AND completion of or concurrent enrollment in ENGL 570L
Hours: 54 lecture
Focus on literal comprehension skills. Emphasis on vocabulary development, determining main idea and supporting details, patterns of organization, drawing a logical inference and incorporation of these skills into college-level study skills. (not degree applicable)

ENGL 570L DEVELOPING COLLEGE ACADEMIC LITERACY LABORATORY
Units: 1
Prerequisite: Completion of ENGL 560 and 560L with grades of "C" or better or placement by matriculation assessment process; AND completion of or concurrent enrollment in ENGL 570L
Hours: 54 laboratory
Application of literal comprehension skills to a variety of pre-college level texts. (not degree applicable)

ENGL 571 INTEGRATED FOUNDATIONS OF READING AND COMPOSITION
Units: 6
Prerequisite: Completion of English 560 with a "C" or better, or placement by matriculation assessment process
Hours: 108 lecture
Practice in pre-college level reading and writing, emphasizing their interrelatedness. Focuses on strategies to improve comprehension, develop vocabulary, analyze expository and literary texts, paragraph structure and development, sentence structure, usage, punctuation, and mechanics. Includes reading and writing a variety of paragraphs and progressing into essays. Course equivalent to English 501 and English 570, combined. Students who have completed English 501 and/or 570 with "C" or better may not take this course. (not degree applicable)

ENGL 573 STRATEGIES FOR SUCCESSFUL SPELLING
Units: 3
Hours: 90 (36 lecture, 54 laboratory)
Designed to improve spelling skills. Increases competency in vocabulary and background knowledge, phonics and pronunciation, fundamental sound patterns and syllabication, use of appropriate word structure and spelling generalizations. (not degree applicable)
ENGL 812 POETRY WRITING & EXPERIMENT
Units: 0
Hours: 8 to 18 lecture as scheduled
Exercises and experiments with language in writing poetry. Uses primarily American poets (from Walt Whitman to Susan Howe and from George Oppen to Emily Dickenson) to determine how writers use image, form, sound and rhythm effectively. Develops a language with which to speak about the craft of poetry. May be repeated. (noncredit)

ENGL 813 BIBLE AS LITERATURE
Units: 0
Hours: 8 to 54 lecture as scheduled
Close reading of books and/or topics from the Bible discussed in the historical and cultural context of the times in which written. Emphasis on literary characteristics of the books and/or topics. Different books and/or topics examined each class offering. May be repeated. (noncredit)

ENGL 814 SELECTED TOPICS IN CREATIVE WRITING
Units: 0
Hours: 8 to 54 lecture as scheduled
Exercises in creative writing drawing ideas from personal observation and experience. Overcome obstacles of how and where to begin writing, what to write about, and how to shape ideas into a variety of formats—creative paragraphs, short stories, nonfiction and fiction. Experiment with various styles, structures and forms of writing. Focus and topics will vary with each offering. May be repeated. (noncredit)

ENGL 815 SELECTED TOPICS IN LITERATURE
Units: 0
Hours: 8 to 54 lecture as scheduled
Study of selected styles of work and/or authors in literature. Examination of theme and impact of work on society. Includes discussion of the influences of the geographic, economic, cultural, and physical setting at the time of writing. May be repeated. (noncredit)

English as a Second Language

LIBERAL ARTS
DEAN: Debra Sutphen
ASSOCIATE DEAN: Rebecca Bocchicchio
DIVISION OFFICE: W 107
FACULTY COORDINATOR: Kaye Foster
FACULTY: M. Brock, R. Persiani, J. Schamber, S. Trant
LIAISON COUNSELORS: C. Axton, P. Neal

English as a Second Language Courses

ESL 25G ACADEMIC GRAMMAR AND EDITING
Units: 3
Prerequisite: Placement by ESL matriculation assessment process, completion of ESL 530G with grade of “C” or higher, or eligibility for ENGL A
Advisory: Concurrent enrollment in ESL 540W or 30W recommended
Hours: 72 (54 lecture, 18 laboratory)
Multi-skill course emphasizing academic grammar and editing skills for non-native speakers. Focus on verb tense usage and sequence, conditional, passive voice for research writing, clauses and self-editing strategies. Open to students eligible for ESL 540, ESL 30 or ENGL A. (CSU)

ESL 25L ACADEMIC LISTENING AND SPEAKING
Units: 3
Prerequisite: Placement by ESL matriculation assessment process or completion of ESL 530L with a grade of “C” or better
Hours: 72 (54 lecture, 18 laboratory)
Speaking and listening course for non-native speakers with emphasis on advanced oral skills and tasks necessary to succeed in academic situations, including note-taking, listening comprehension, and academic speaking tasks. Open to students eligible for ESL 540 or ESL 30. (CSU)

ESL 25W ACADEMIC TIMED WRITING
Units: 3
Prerequisite: Placement by ESL matriculation assessment process at ESL 540W or higher or at ENGL A or higher, or completion of ESL 530W or ENGL 501 with a grade of “C” or better
Hours: 54 lecture
Review and practice for non-native English speakers in understanding and responding to academic timed writing assignments. Emphasis on topic analysis, organization, drafting and editing for errors in sentence structure, grammar, mechanics and word choice in timed writing settings. Open to students eligible for ESL 540W, 30W, 40W, ENGL A or higher. (CSU)
ESL 30R ADVANCED READING AND VOCABULARY
Units: 3
Prerequisite: Placement by ESL matriculation assessment process or completion of ESL 540R with a grade of “C” or better
Hours: 72 (54 lecture, 18 laboratory)
Multi-skill course emphasizing advanced reading and vocabulary skills for non-native English speakers. Focus on strategies for comprehending and analyzing authentic literary, journalistic, and academic texts, and building academic vocabulary. (CSU)

ESL 30W ADVANCED WRITING
Units: 3
Prerequisite: Placement by ESL matriculation assessment process or completion of ESL 540W with a grade of “C” or better
Advisory: Concurrent enrollment in ESL 30R recommended
Hours: 54 lecture
Multi-skill course emphasizing advanced writing skills for non-native English speakers. Focus on essay organization, development, support from sources, timed writing and editing strategies. Departmental writing exam/portfolio process required for successful course completion. Prepares students for ESL 40W or ENGL 1A. (CSU, UC—with unit limitation)

ESL 40L COLLEGE COMMUNICATION FOR NON-NATIVE SPEAKERS
Units: 3
Prerequisite: Placement by ESL matriculation assessment process or completion of ESL 25L with a grade of “C” or better
Hours: 72 (54 lecture, 18 laboratory)
College speaking and listening course for non-native speakers. Focus on formal and informal speaking and class participation skills for college settings, including lecture comprehension/note-taking and oral presentations. (CSU)

ESL 40W COLLEGE COMPOSITION FOR NON-NATIVE SPEAKERS
Units: 3
Prerequisite: Placement by ESL matriculation assessment process or completion of ESL 30W or ENGL A with a grade of “C” or better
Hours: 54 lecture
College writing for non-native speakers emphasizing essay development, writing from textual sources, argumentation, and research. Departmental writing exam/portfolio process and a research paper required for successful course completion. Satisfies composition requirement for A.A. degree and CSU General Education requirement, and transfers to UC as elective credit. (CSU, UC—with unit limitation)

ESL 300 SELECTED TOPICS IN ESL
Units: 0.5-4
Courses of study will cover topics relevant to the discipline. Topics will vary. Course content and unit credit to be determined by the division. May be offered as seminar, lecture, or lecture/laboratory classes. Students may repeat “300” courses within a discipline only when a topic is different from previously completed course. See Selected Topics page in catalog. (CSU, UC—with unit limitation)

ESL 500G NOVICE GRAMMAR
Units: 3
Prerequisite: Placement by ESL matriculation process
Advisory: Concurrent enrollment in ESL 500W, 500R and 500L
Hours: 54 lecture
Multi-skill course emphasizing grammar skill development for non-native English speakers. Focus on basic grammar usage for sentence-level writing. (not degree applicable)

ESL 500L NOVICE LISTENING & SPEAKING
Units: 3
Prerequisite: Placement by ESL matriculation process
Advisory: Concurrent enrollment in ESL 500W, 500G and 500R
Hours: 54 lecture
Multi-skill course emphasizing listening and speaking skill development for non-native English speakers. Focus on listening comprehension, oral fluency for common daily and academic situations, novice vocabulary and structures. (not degree applicable)

ESL 500R NOVICE READING & VOCABULARY
Units: 3
Prerequisite: Placement by ESL matriculation process
Advisory: Concurrent enrollment in ESL 500W, 500G, and 500L
Hours: 54 lecture
Multi-skill course emphasizing reading and vocabulary skill development for non-native English speakers. Focus on novice skills in reading short texts for comprehension and vocabulary acquisition. (not degree applicable)

ESL 500W NOVICE WRITING
Units: 3
Prerequisite: Placement by ESL matriculation process
Advisory: Concurrent enrollment in ESL 500G, 500R and 500L recommended
Hours: 54 lecture
Multi-skill course emphasizing writing skills for non-native English speakers. Focus on sentence-level writing. Departmental writing examination/portfolio process required for successful course completion. (not degree applicable)

ESL 510G NOVICE-HIGH GRAMMAR
Units: 3
Prerequisite: Placement by ESL matriculation assessment process or completion of ESL 500G with a grade of “C” or better
Advisory: Concurrent enrollment in ESL 510W, 510R, and 510L
Hours: 72 (54 lecture, 18 laboratory)
Multi-skill course emphasizing grammar skills for non-native English speakers. Focus on grammar for paragraph-level writing. (not degree applicable)
ESL 510L NOVICE-HIGH LISTENING AND SPEAKING
Units: 3
Prerequisite: Placement by ESL matriculation assessment process or completion of ESL 500L with a grade of "C" or better
Advisory: Concurrent enrollment in ESL 510W, 510G and 510R
Hours: 72 (54 lecture, 18 laboratory)
Multi-skill course emphasizing listening and speaking skill development for non-native English speakers. Focus on listening comprehension, oral fluency, novice-high vocabulary and structures. (not degree applicable)

ESL 510R NOVICE-HIGH READING AND VOCABULARY
Units: 3
Prerequisite: Placement by ESL matriculation assessment process or completion of ESL 500R with a grade of "C" or better
Advisory: Concurrent enrollment in ESL 510W, 510G and 510L
Hours: 72 (54 lecture, 18 laboratory)
Multi-skill course emphasizing reading and vocabulary skill development for non-native English speakers. Focus on reading comprehension, vocabulary and dictionary skills. (not degree applicable)

ESL 510W NOVICE-HIGH WRITING
Units: 3
Prerequisite: Placement by ESL matriculation assessment process or completion of ESL 500W with a grade of "C" or better
Advisory: Concurrent enrollment in ESL 510R, 510G and 510L
Hours: 72 (54 lecture)
Multi-skill course emphasizing writing skills for non-native English speakers. Focus on paragraph-level writing. Departmental writing examination/portfolio process required for successful course completion. (not degree applicable)

ESL 520G INTERMEDIATE-LOW GRAMMAR
Units: 3
Prerequisite: Placement by ESL matriculation assessment process or completion of ESL 510G with a grade of "C" or better
Advisory: Concurrent enrollment in ESL 520W, 520R and 520L
Hours: 72 (54 lecture, 18 laboratory)
Multi-skill course emphasizing grammar skills for non-native English speakers. Focus on grammar for paragraphs and short essays including sentence structures, simple and complex verb tenses, auxiliary verbs and modifiers. (not degree applicable)

ESL 520L INTERMEDIATE-LOW LISTENING AND SPEAKING
Units: 3
Prerequisite: Placement by ESL matriculation assessment process or completion of ESL 510L with a grade of "C" or better
Advisory: Concurrent enrollment in ESL 520W, 520G and 520R
Hours: 72 (54 lecture, 18 laboratory)
Multi-skill course emphasizing listening and speaking skill development for non-native English speakers. Focus on listening comprehension, oral fluency, intermediate-low vocabulary and structures. (not degree applicable)

ESL 520R INTERMEDIATE-LOW READING AND VOCABULARY
Units: 3
Prerequisite: Placement by ESL matriculation assessment process or completion of ESL 510R with a grade of "C" or better
Advisory: Concurrent enrollment in ESL 520W, 520G and 520L
Hours: 72 (54 lecture, 18 laboratory)
Multi-skill course emphasizing reading and vocabulary skill development for non-native English speakers. Focus on reading texts with greater comprehension, speed and more vocabulary acquisition. (not degree applicable)

ESL 520W INTERMEDIATE-LOW WRITING
Units: 3
Prerequisite: Placement by ESL matriculation assessment process or completion of ESL 510W with a grade of "C" or better
Advisory: Concurrent enrollment in ESL 520G, 520R and 520L
Hours: 54 lecture
Multi-skill course emphasizing writing skills for non-native English speakers. Focus on paragraph and short multiple-paragraph writing. Departmental writing examination/portfolio process required for successful course completion. (not degree applicable)

ESL 530G INTERMEDIATE-MID GRAMMAR
Units: 3
Prerequisite: Placement by ESL matriculation assessment process or completion of ESL 520G with a grade of "C" or better
Advisory: Concurrent enrollment in ESL 530W, 530R and 530L
Hours: 72 (54 lecture, 18 laboratory)
Multi-skill course emphasizing grammar skills for non-native English speakers. Focus on grammar for short essays including complex sentence structures, perfect and progressive verb tenses, and modal auxiliaries. (not degree applicable)

ESL 530L INTERMEDIATE-MID LISTENING AND SPEAKING
Units: 3
Prerequisite: Placement by ESL matriculation assessment process or completion of ESL 520L with a grade of "C" or better
Advisory: Concurrent enrollment in ESL 530W, 530G and 530R
Hours: 72 (54 lecture, 18 laboratory)
Multi-skill course emphasizing listening and speaking skill development for non-native English speakers. Focus on listening comprehension, oral fluency for academic and community situations and intermediate-mid vocabulary and structures. (not degree applicable)
ESL 530W INTERMEDIATE-MID WRITING
Units: 3
Prerequisite: Placement by ESL matriculation assessment process or completion of ESL 520W with a grade of “C” or better
Advisory: Concurrent enrollment in ESL 530G, 530R and 530L
Hours: 54 lecture
Multi-skill course emphasizing writing skills for non-native English speakers. Focus on basic organization and development in essay writing. Departmental writing examination/portfolio process required for successful course completion. (not degree applicable)

ESL 540R INTERMEDIATE-HIGH WRITING
Units: 3
Prerequisite: Placement by ESL matriculation assessment process or completion of ESL 530R with a grade of “C” or better
Advisory: Concurrent enrollment in ESL 540G, 540R and 540L
Hours: 54 lecture
Intermediate-high writing course for non-native speakers on academic essay organization, timed writing, integration of grammar and editing. Departmental writing examination/portfolio process required for successful course completion. Prepares students for ESL 30W. (not degree applicable)

ESL 805 ENGLISH FOR WORK SUCCESS
Units: 0
Hours: 48-96 activity as scheduled
Novice-level vocational English as a Second Language focusing on workplace language needs and skills. Emphasis on listening and speaking in workplace situations and related grammar, structure, vocabulary, reading and writing skills. May be repeated. (noncredit)

Environmental Horticulture
The Environmental Horticulture program is inactive; see Agriculture, Biological Sciences, and Recreation Management for related courses.

Environmental Studies and Sustainability
(Also see Biological Sciences)

SCIENCES & MATHEMATICS
DEAN: Heather Roberts
ASSOCIATE DEAN: Michael Kane
DIVISION OFFICE: V 211
FACULTY: K. Gilbert
LIAISON COUNSELORS: M. Braga, E. Farrelly

The Environmental Studies and Sustainability program at Sierra College provides students with the opportunity to meet the requirements to transfer to four-year colleges in the environmental fields including Environmental Studies and Environmental Science. The program provides students with a common interdisciplinary base with which to address issues of environmental health, sustainability, and global stewardship. Students will have the opportunity to apply principles from a range of scientific fields including the physical, life and social sciences as well as technical skills utilized in ecosystem assessment and the expanding field of solar energy. The program is developing several degree track options, along with a photovoltaics technician certificate.
ENVIRONMENTAL STUDIES AND SUSTAINABILITY
A.S. DEGREE

Successful completion of the Environmental Studies and Sustainability curriculum will prepare students for transfer to four-year colleges or universities. The major has been designed to meet lower-division requirements for Environmental Studies and Environmental Science majors at transfer institutions. In all cases students should consult with counselors to select courses which meet general education and transfer major requirements. Students must fulfill program requirements and all associate degree requirements for the A.S. degree; see pages 42-43.

REQUIRED COURSES

<table>
<thead>
<tr>
<th>COURSE</th>
<th>UNITS</th>
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<tbody>
<tr>
<td>BIOL 1 General Biology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 2 Botany</td>
<td>4.5</td>
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<tr>
<td>BIOL 3 General Zoology</td>
<td>4</td>
</tr>
<tr>
<td>ESCI 1 Physical Geology</td>
<td>3</td>
</tr>
<tr>
<td>ECON 1A Fundamentals of Economics OR ECON 1B Fundamentals of Economics</td>
<td>3</td>
</tr>
<tr>
<td>INT 1 The Environment and the Human Impact</td>
<td>3</td>
</tr>
</tbody>
</table>

PLUS 4-6 UNITS FROM THE FOLLOWING:

<table>
<thead>
<tr>
<th>COURSE</th>
<th>UNITS</th>
</tr>
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<tbody>
<tr>
<td>AGRI 163 Wildland Trees &amp; Shrubs (Dendrology) (also BIOL 24)</td>
<td>4</td>
</tr>
<tr>
<td>AGRI 198 Food, Society &amp; the Environment</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 221 Introduction to Soil Science</td>
<td>3</td>
</tr>
<tr>
<td>ANTH 2 Cultural Anthropology</td>
<td>3</td>
</tr>
<tr>
<td>ANTH 14 Globalization Studies</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 16 Field Studies in Biology (any)</td>
<td>3-4</td>
</tr>
<tr>
<td>BIOL 23 Wildflower Identification (also AGRI 182)</td>
<td>1</td>
</tr>
<tr>
<td>COMM 7 Intercultural Communication</td>
<td>3</td>
</tr>
<tr>
<td>ECON 1A Fundamentals of Economics OR ECON 1B Fundamentals of Economics</td>
<td>3</td>
</tr>
<tr>
<td>ESCI 1L Physical Geology Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>ESCI 10 Introduction to Earth Science</td>
<td>3</td>
</tr>
<tr>
<td>ESCI 16, 54 or 55 Field Geology (any)</td>
<td>5-4</td>
</tr>
<tr>
<td>ESS 10 Conservation of Natural Resources</td>
<td>3</td>
</tr>
<tr>
<td>GEOG 1 Physical Geography</td>
<td>3</td>
</tr>
<tr>
<td>GEOG 2 Cultural Geography</td>
<td>3</td>
</tr>
<tr>
<td>GEOG 92 Intermediate GIS</td>
<td>3</td>
</tr>
<tr>
<td>GEOG 93 Advanced GIS</td>
<td>3</td>
</tr>
<tr>
<td>INT 5 The California Landscape: An Integrated Exploration</td>
<td>3</td>
</tr>
<tr>
<td>INT 6 The Sierra Nevada</td>
<td>3</td>
</tr>
<tr>
<td>MATH 13 Elementary Statistics</td>
<td>4</td>
</tr>
<tr>
<td>PHIL 60 Introduction to Environmental Ethics</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 70 Environmental Psychology</td>
<td>3</td>
</tr>
</tbody>
</table>

TOTAL UNITS REQUIRED: 25.5-27.5

Environmental Studies and Sustainability Courses

ESS 10 CONSERVATION OF NATURAL RESOURCES

Formerly known as AGRI 190 and NATR 10
Units: 3
Advisory: Eligibility for ENGL 1A or ESL 40W
Hours: 54 lecture
Use and protection of natural resources, including soil, water, forest, mineral, plant, and animal life, with particular attention to California conditions. Ecological principles, history of the conservation movement, modern problems in resource use, and the citizen's role in conservation. (CSU, UC)

ESS 28 INDEPENDENT STUDY

Units: 1-3
Designed for students interested in furthering their knowledge at an independent study level in an area where no specific curriculum offering is currently available. Independent study might include, but is not limited to, research papers, special subject area projects, and research projects. May be taken four times for credit. See Independent Study page in catalog. (CSU, UC—with unit limitation)

ESS 30 BEGINNING PHOTOVOLTAIC SYSTEMS

Units: 4
Hours: 108 (54 lecture, 54 laboratory)
Introduction to photovoltaic concepts, applications, and the solar energy industry. Includes basics of electricity, load estimation, energy efficiency, solar site surveying, photovoltaic system components, sizing, financial analysis, design, installation concepts, and maintenance. This course taken with ESS 32 prepares students to sit for the NABCEP PV Entry Level Certificate of Knowledge exam. (CSU)

ESS 32 INTERMEDIATE PHOTOVOLTAIC SYSTEMS

Units: 4
Prerequisite: Completion of ESS 30 with grade of “C” or better
Hours: 108 (54 lecture, 54 laboratory)
Expands on the fundamentals of photovoltaics with a focus on system design and installation concepts of grid-connected residential and small commercial systems. Topics include detailed system sizing, array layout, mounting on various roof constructions, mechanical and electrical integration as well as related electrical codes and workplace safety standards. This course, taken with ESS 30, prepares students to sit for the NABCEP PV Entry Level Certificate of Knowledge exam. (CSU)
ESS 34 ADVANCED PHOTOVOLTAIC SYSTEMS
Units: 4
Prerequisite: Completion of ESS 30 and ESS 32 with grades of “C” or better
Hours: 108 (54 lecture, 54 laboratory)
Third course in the series which examines the theoretical and technical dimensions of photovoltaic (PV) systems in detail. Topics include advanced principles of electricity and how they apply to PV systems, commissioning, troubleshooting, metering laws, local codes, and National Electric Code PV requirements. Off campus activities required. (CSU)

ESS 95 INTERNSHIP IN ENVIRONMENTAL STUDIES AND SUSTAINABILITY
Units: 0.5-4
Designed for advanced students to work in an area related to their educational or occupational goal. Provides new on-the-job technical training under the direction of a worksite supervisor, allowing students to expand knowledge and skills in the chosen field. Mandatory orientation session and faculty approval to determine eligibility. Students may earn up to a total of 16 units in internship courses (any course numbered 95 and PDEV 94). (CSU—with unit limitation)

ESS 300 SELECTED TOPICS IN ENVIRONMENTAL STUDIES AND SUSTAINABILITY
Units: 0.5-4
Courses of study will cover topics relevant to the discipline. Topics will vary. Course content and unit credit to be determined by the division. May be offered as seminar, lecture, or lecture/laboratory classes. Students may repeat “300” courses within a discipline only when a topic is different from previously completed course. See Selected Topics page in catalog. (CSU, UC—with unit limitation)

Fashion Design and Merchandising

LIBERAL ARTS
DEAN: Debra Sutphen
ASSOCIATE DEAN: Rebecca Bocchicchio
DIVISION OFFICE: W 107
LIAISON COUNSELORS: C. Epting-Davis, V. Rogers
The Fashion Design and Merchandising program is designed to provide students with the necessary background for careers in the fashion industry or as a basis for advanced study. A.A. and A.S. degrees as well as certificates can be earned in the Fashion Design and Merchandising field. The certificate programs do not satisfy A.A./A.S. degree requirements but do qualify students for certificates in the field of study.

APPAREL DESIGN & PRODUCTION
A.A. OR A.S. DEGREE
Students must fulfill major requirements and all associate degree requirements for the A.A./A.S. degree; see pages 42-43.

REQUIRED COURSES

<table>
<thead>
<tr>
<th>COURSE</th>
<th>UNITS</th>
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</thead>
<tbody>
<tr>
<td>FASH 1 Introduction to Fashion</td>
<td>3</td>
</tr>
<tr>
<td>FASH 2 Fashion Analysis &amp; Selection</td>
<td>3</td>
</tr>
<tr>
<td>FASH 3 Textiles</td>
<td>3</td>
</tr>
<tr>
<td>FASH 4A Basic Clothing Construction</td>
<td>2-3</td>
</tr>
<tr>
<td>FASH 4B Intermediate Clothing Construction</td>
<td>2-3</td>
</tr>
<tr>
<td>FASH 5 Patternmaking &amp; Design</td>
<td>2-3</td>
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<tr>
<td>FASH 6 Tailoring</td>
<td>2-3</td>
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<tr>
<td>FASH 8 Fashion Illustration</td>
<td>3</td>
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<tr>
<td>FASH 10 Draping</td>
<td>3</td>
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<tr>
<td>FASH 12 Fashion History</td>
<td>3</td>
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<tr>
<td>FASH 28 Independent Study OR</td>
<td></td>
</tr>
<tr>
<td>FASH 95 Internship in Fashion Design and Merchandising</td>
<td>3</td>
</tr>
<tr>
<td>AAD 20 Portfolio Development and Presentation</td>
<td>2</td>
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</tbody>
</table>

TOTAL UNITS REQUIRED: 31-35
Recommended Electives: ART 1A, 1B, 5A, 5B, 6A, BUS 20, 120, 140, DRMA 16A.
APPAREL DESIGN & PRODUCTION
CERTIFICATE
The certificate in Apparel Design and Production will qualify students for positions as assistant designers, showroom representatives, piece goods buyers, sample makers, custom designers/seamstresses and alteration specialists. A certificate is designed to provide career technical skills; it is not equivalent to an A.A. or A.S. Degree.

REQUIRED COURSES

<table>
<thead>
<tr>
<th>COURSE</th>
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</thead>
<tbody>
<tr>
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<td>3</td>
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<tr>
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<td>3</td>
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<tr>
<td>FASH 10 Draping</td>
<td>3</td>
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<tr>
<td>FASH 12 Fashion History</td>
<td>3</td>
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</table>

PLUS 3 ADDITIONAL UNITS FROM:

<table>
<thead>
<tr>
<th>COURSE</th>
<th>UNITS</th>
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<tbody>
<tr>
<td>ART 1A History of Prehistoric through Gothic Art</td>
<td>3</td>
</tr>
<tr>
<td>ART 1B History of Renaissance to Mid-Nineteenth Century Art</td>
<td>3</td>
</tr>
<tr>
<td>ART 6A Design</td>
<td>3</td>
</tr>
<tr>
<td>DRMA 16A Costume History</td>
<td>3</td>
</tr>
</tbody>
</table>

TOTAL UNITS REQUIRED: 27-30

FASHION MERCHANDISING
A.A. OR A.S. DEGREE
Students must fulfill major requirements and all associate degree requirements for the A.A./A.S. degree; see pages 42-43.

REQUIRED COURSES

<table>
<thead>
<tr>
<th>COURSE</th>
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<tbody>
<tr>
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</tr>
<tr>
<td>FASH 2 Fashion Analysis &amp; Selection</td>
<td>3</td>
</tr>
<tr>
<td>FASH 3 Textiles</td>
<td>3</td>
</tr>
<tr>
<td>FASH 7 Fashion Promotion</td>
<td>3</td>
</tr>
<tr>
<td>FASH 12 Fashion History</td>
<td>3</td>
</tr>
<tr>
<td>FASH 28 Independent Study OR</td>
<td></td>
</tr>
<tr>
<td>FASH 95 Internship in Fashion Design and Merchandising</td>
<td>3</td>
</tr>
<tr>
<td>BUS A Elements of Accounting OR</td>
<td></td>
</tr>
<tr>
<td>BUS 64 Business Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>BUS 120 Introduction to Marketing</td>
<td>3</td>
</tr>
<tr>
<td>BUS 121 Advertising</td>
<td>3</td>
</tr>
<tr>
<td>BUS 123 Retailing</td>
<td>3</td>
</tr>
</tbody>
</table>

TOTAL UNITS REQUIRED: 30

Recommended Electives: AAD 20, COMM 1, CSCI 10, FASH 4A, PHOT 60A.

FASHION MERCHANDISING
CERTIFICATE
A certificate is designed to provide career technical skills; it is not equivalent to an A.A. or A.S. degree.

REQUIRED COURSES

<table>
<thead>
<tr>
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<tbody>
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<td>FASH 3 Textiles</td>
<td>3</td>
</tr>
<tr>
<td>FASH 7 Fashion Promotion</td>
<td>3</td>
</tr>
<tr>
<td>FASH 12 Fashion History</td>
<td>3</td>
</tr>
<tr>
<td>FASH 28 Independent Study OR</td>
<td></td>
</tr>
<tr>
<td>FASH 95 Internship in Fashion Design and Merchandising</td>
<td>3</td>
</tr>
<tr>
<td>BUS A Elements of Accounting OR</td>
<td></td>
</tr>
<tr>
<td>BUS 64 Business Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>BUS 120 Introduction to Marketing</td>
<td>3</td>
</tr>
<tr>
<td>BUS 123 Retailing</td>
<td>3</td>
</tr>
</tbody>
</table>

PLUS 3 ADDITIONAL UNITS FROM:

<table>
<thead>
<tr>
<th>COURSE</th>
<th>UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS 121 Advertising</td>
<td>3</td>
</tr>
<tr>
<td>COMM 1 Fundamentals of Speech</td>
<td>3</td>
</tr>
<tr>
<td>CSCI 10 Introduction to Computing (or other computer course)</td>
<td>3</td>
</tr>
<tr>
<td>FASH 4A Basic Clothing Construction</td>
<td>3</td>
</tr>
<tr>
<td>PHOT 60A Elementary Photography</td>
<td>3</td>
</tr>
</tbody>
</table>

TOTAL UNITS REQUIRED: 30

Fashion Design and Merchandising Courses

FASH 1 INTRODUCTION TO FASHION
Units: 3
Hours: 54 lecture
Exploration of the diversity and complexities of the fashion industry. Career opportunities and qualifications will be studied. The relationship between the fashion world and the public, including sources of fashion, influences on fashion, and fashion prediction and promotion, will be addressed. Required for Fashion Design and Merchandising majors. (CSU)

FASH 2 FASHION ANALYSIS AND SELECTION
Units: 3
Hours: 54 lecture
Consideration of the psychological, sociological, and physical factors which have an impact on dress. Principles of design as they relate to clothing and appearance. Consumer issues related to the selection and use of clothing. Required for Fashion Design and Merchandising majors. (CSU)

FASH 3 TEXTILES
Units: 3
Hours: 54 lecture
Introduction to the study of characteristics and uses of the natural and synthetic fibers and fabrics. Emphasizes evaluation and selection of textile products. Recommended for majors in Family Consumer Sciences, Fashion Design and Merchandising, Marketing, and Interior Design. (CSU, UC)
FASH 4A BASIC CLOTHING CONSTRUCTION  
Units: 2-3  
Hours: 54 (27 lecture, 27 laboratory) 2 units; 108 (27 lecture, 81 laboratory) 3 units  
Techniques of garment construction; use of commercial patterns, pattern alterations, and fitting techniques; comparison of construction techniques and costs between ready-to-wear and custom-made clothing; the social and psychological aspects of clothing selection, with emphasis on basic design principles. May be taken twice for credit. (CSU)

FASH 4B INTERMEDIATE CLOTHING CONSTRUCTION  
Units: 2-3  
Prerequisite: Completion of FASH 4A or equivalent  
Hours: 54 (27 lecture, 27 laboratory) 2 units; 108 (27 lecture, 81 laboratory) 3 units  
Intermediate and advanced techniques of garment construction. Designed for individuals with basic knowledge of sewing principles. Development and improvement of skills in working with designer patterns; techniques of handling specialty fabrics, including knit fabrics; use of sergers. May be taken twice for credit. (CSU)

FASH 5 PATTERNMAKING AND DESIGN  
Units: 2-3  
Prerequisite: Completion of FASH 4B or equivalent  
Hours: 54 (27 lecture, 27 laboratory) 2 units; 108 (27 lecture, 81 laboratory) 3 units  
Fashion design using the flat pattern method. Students will develop a personal master pattern, create original pattern designs, and construct these garments. Designed for individuals with good knowledge of sewing principles. Commercial sewing methods will be presented and compared with home sewing techniques; commercial machines used. May be taken twice for credit. (CSU)

FASH 6 TAILORING  
Units: 2-3  
Prerequisite: Completion of FASH 4B  
Hours: 54 (27 lecture, 27 laboratory) 2 units; 108 (27 lecture, 81 laboratory) 3 units  
Instruction in the selection of appropriate patterns, fashion fabrics, interfacings, linings, and notions suitable for custom tailoring techniques; comparative study of tailoring construction in custom and ready-to-wear garments; emphasis on accurate fitting techniques and pattern alterations; special handling and pressing techniques for wool and wool blends. May be taken twice for credit. (CSU)

FASH 7 FASHION PROMOTION  
Units: 3  
Hours: 72 (36 lecture, 36 activity)  
Emphasis on the role of promotion in the selling and merchandising of fashion goods. All avenues of fashion promotion will be explored and evaluated including: advertising, publicity, special events, fashion show production, visual merchandising, and merchandising presentation. Planning and technical skills will be developed through activities and projects. Field experience will be included. (CSU)

FASH 8 FASHION ILLUSTRATION  
Units: 3  
Hours: 108 (36 lecture, 72 laboratory)  
Illustration techniques with emphasis on figure proportions used in the fashion industry. Various media used to communicate fashion and apparel details. SNAP Fashun presented with focus on flat sketch. May be taken twice for credit. (CSU)

FASH 10 DRAPING  
Units: 3  
Prerequisite: Completion of FASH 4A  
Hours: 72 (36 lecture, 36 activity)  
Basic draping principles to transform design sketches into 3-dimensional forms. Classic silhouettes and details draped in muslin on dress form to create basic patterns as well as original designs. Will work on bodices, skirts, dresses and collars before creating final muslin project of students’ own design. (not transferable)

FASH 12 FASHION HISTORY  
Units: 3  
Hours: 54 lecture  
Fashion and adornment through the ages to the present. Emphasis on the historical flow and how fashion themes are reinterpreted or influence designs in later periods including the present. Designed for fashion majors as a basis for understanding and appreciating fashion as well as how the times and environment affect styling, colors, fabric and details. (CSU)

FASH 28 INDEPENDENT STUDY  
Units: 1-3  
Designed for students interested in furthering their knowledge at an independent study level in an area where no specific curriculum offering is currently available. Independent study problems might include, but are not limited to, research papers, special construction projects, and research projects. May be taken four times for credit. See Independent Study page in catalog. (CSU)
FASH 95 INTERNSHIP IN FASHION DESIGN AND MERCHANDISING
Units: 0.5-4
Designed for advanced students to work in an area related to their educational or occupational goal. Provides new on-the-job technical training under the direction of a worksite supervisor, allowing students to expand knowledge and skills in the chosen field. Mandatory orientation session and faculty approval to determine eligibility. Students may earn up to a total of 16 units in internship courses (any course numbered 95 and PDEV 94). (CSU—with unit limitation)

Fire Technology

BUSINESS, APPLIED ACADEMICS, & PHYSICAL EDUCATION
DEAN: Luis Sanchez
ASSOCIATE DEAN: Darlene Jackson
DIVISION OFFICE: B 3
AREA OFFICE: Room 205, Roseville Gateway Center, Phone (916) 781-6255
FACULTY COORDINATOR: T. Tollefson
LIAISON COUNSELORS: C. Axton, E. Farrelly, S. Muraki

The Fire Technology program prepares students for a career in the fire service and provides educational and training opportunities for employed and volunteer firefighters.

The Associate Degree and Certificate programs incorporate the standardized Fire Technology curriculum identified by the offices of the California State Chancellor and State Fire Marshal. Elective courses are those developed under the guidelines of related fire service training and educational programs such as CFSTES (California Fire Service Training and Education System), DOT (Department of Transportation), FEMA (Federal Emergency Management Agency), F.S.T.E.P. (Fire Service Training and Education Program) and NFA (National Fire Academy).

Most Fire Technology courses, up to 30 units, may be transferred to CSU.

FIREFIGHTER I ACADEMY
The Firefighter I Academy is offered through partnerships with the Placer and Nevada County Fire Chiefs’ Associations and The City of Roseville Fire Department. Sierra College is recognized by the California State Fire Marshal and the State Board of Fire Services as an Accredited Regional Training Program.

Students must enroll in FIRE 100, Firefighter I Academy (500 hours) and PHED 200 Fire Academy Physical Training (80 hours). Prerequisites to the Academy require completion of FIRE 1, Fire Protection Organization and HSCI 2, Emergency Medical Technician I.

The Firefighter I Academy is offered in an extended format (evenings and weekend classes), which enables students to maintain employment while preparing for a career in the fire service. The fall Academy is held August through December, and in the spring, January through late May or early June. Classes are held Tuesday and Thursday nights and on Saturdays. Classes may also be scheduled on some Friday nights and Sundays. The Physical Training classes meet on Monday and Wednesday nights.

Individuals completing the Academy may apply to the State of California for a Firefighter I Certificate after successfully completing either one year as a volunteer firefighter or six months as a paid firefighter with a California fire department.

Other Certificates of Training awarded upon completion of the Academy include: (subject to change)
- Basic Incident Command System—ICS 200
- Confined Space Awareness
- Hazardous Materials First Responder—Operational (CSTI)
- First Responder Operational—Decontamination (CSTI)
- Fire Control 3
- Fire Control 4A / 4B
- Low Angle Rescue
- Rapid Intervention Crew Tactics
- Vehicle Extrication
- Cal Fire—Basic Firefighter
- S-130 Basic Wildland Firefighter
- S-190 Beginning Fire Behavior
- Swift Water Rescue Awareness
- L-184 Human Factors in the Wildland Fire Service
- S-134 LCES

Acceptance into the Fire Academy is by an application process, which includes a physical examination. Applications for the Academy are available in April for the fall academy and October for the spring academy.
Fire Officer Courses

The following Fire Technology courses are part of the State Fire Marshal's certification track for FIRE OFFICER. These courses are designed for individuals currently employed as professional or volunteer firefighters. Individuals without this experience will be unable to contribute to the educational process and utilize the information in a timely manner.

<table>
<thead>
<tr>
<th>COURSES</th>
<th>UNITS</th>
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</thead>
<tbody>
<tr>
<td>FIRE 150 Command 1A-Principles for Company Officers</td>
<td>2</td>
</tr>
<tr>
<td>FIRE 151 Command 1B-Issue Management for Company Officers</td>
<td>2</td>
</tr>
<tr>
<td>FIRE 152 Fire Command 1C-1Zone Fire Fighting for Company Officers</td>
<td>2</td>
</tr>
<tr>
<td>FIRE 154 Fire Investigation 1A-Fire Cause, Origin and Determination</td>
<td>2</td>
</tr>
<tr>
<td>FIRE 157 Management and Supervision for Company Officers</td>
<td>2</td>
</tr>
<tr>
<td>FIRE 159 Fire Prevention 1A (Bridge)-Fire Inspection Practices</td>
<td>2</td>
</tr>
<tr>
<td>FIRE 160 Fire Prevention 1B (Bridge) -Protection Systems/Special Hazards</td>
<td>2</td>
</tr>
<tr>
<td>FIRE 165 Training Instructor 1A</td>
<td>1.5</td>
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<tr>
<td>FIRE 166 Training Instructor 1B</td>
<td>1.5</td>
</tr>
<tr>
<td>FIRE 242 I-300: Intermediate ICS for Expanding Incidents</td>
<td>1</td>
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</tbody>
</table>

Chief Officer Courses

The following Fire Technology courses are part of the State Fire Marshal's certification track for CHIEF OFFICER and are currently part of Sierra College's curriculum. These courses are intended for individuals currently employed as professional or volunteer fire officers who hold a Chief Officer position. Individuals without this experience will be unable to contribute to the educational process and utilize the information in a timely manner.

<table>
<thead>
<tr>
<th>UNITS</th>
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</thead>
<tbody>
<tr>
<td>FIRE 220 Fire Command 2A—Command Tactics at Major Fires</td>
</tr>
<tr>
<td>FIRE 221 Fire Command 2B—Management of Haz-Mat Incidents</td>
</tr>
<tr>
<td>FIRE 222 Fire Command 2C—High Rise Fire Tactics</td>
</tr>
<tr>
<td>FIRE 223 Fire Command 2D—Planning for Large-Scale Disasters</td>
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<tr>
<td>FIRE 224 Fire Command 2E—Wildland Fire Tactics</td>
</tr>
</tbody>
</table>

PLUS 15 ADDITIONAL UNITS FROM:

| FIRE 7 Fundamentals of Fire Service Operations | 3 |
| FIRE 10 Firefighter Occupational Safety and Survival | 3 |
| FIRE 41 Hazardous Materials—Operational Level | 5.1 |
| FIRE 50 Basic Firefighter Training | 2 |
| FIRE 73 Fire Hydraulics | 3 |
| FIRE 74 Fire Apparatus and Equipment | 3 |
| FIRE 75 Wildland Fire Control | 3 |
| FIRE 77 Public Education I | 2 |
| FIRE 95 Internship in Fire Technology | 5.4 |
| FIRE 100 Firefighter I Academy | 17.5 |
| FIRE 150 Command 1A-Principles for Company Officers | 2 |
| FIRE 151 Command 1B-Issue Management for Company Officers | 2 |
| FIRE 152 Fire Command 1C-1Zone Fire Fighting for Company Officers | 2 |
| FIRE 154 Fire Investigation 1A-Fire Cause, Origin and Determination | 2 |
| FIRE 155 Fire Investigation 1B—Techniques of Fire Investigation | 2 |
| FIRE 157 Management and Supervision for Company Officers | 2 |
| FIRE 159 Fire Prevention 1A (Bridge)—Fire Inspection Practices | 2 |
| FIRE 160 Fire Prevention 1B (Bridge) -Protection Systems/Special Hazards | 2 |
| FIRE 165 Training Instructor 1A | 1.5 |
| FIRE 166 Training Instructor 1B | 1.5 |
| FIRE 201 Wildland Fire Suppression Tactics | 1.5 |
| FIRE 202 Hazardous Materials Incident Commander | 1.5 |
| FIRE 205 Incident Management II | 1.5 |
| FIRE 220 Fire Command 2A-Command Tactics at Major Fires | 2 |
| FIRE 221 Fire Command 2B-Management of Haz-Mat Incidents | 2 |
| FIRE 222 Fire Command 2C—High Rise Fire Tactics | 2 |
| FIRE 223 Fire Command 2D—Planning for Large-Scale Disasters | 2 |
| FIRE 224 Fire Command 2E—Wildland Fire Tactics | 2 |
| FIRE 241 Incident Command System I-200 | 5 |
| FIRE 242 I-300: Intermediate ICS for Expanding Incidents | 1 |
| FIRE 243 I-400: Advanced ICS for Complex Incidents | 5 |
| FIRE 244 Incident Command System: Division/Group Supervisor | 1 |
| FIRE 245 Incident Command System: Field Observer/Display Processor | 1.5 |
| FIRE 246 Incident Command System: Strike Team/Task Force Leader | 1.5 |
| FIRE 247 Incident Command System: Operations Section Chief | 2 |
| FIRE 262 Fire Investigation 2A—Criminal & Legal Procedures | 2 |
| FIRE 263 Fire Investigation 2B—Field Case Studies | 2 |

TOTAL UNITS REQUIRED: 30
Fire Technology Courses

**FIRE 1 FIRE PROTECTION ORGANIZATION**
Units: 3
Hours: 54 lecture
Introduction to fire protection; career opportunities in fire protection and related fields; philosophy and history of fire protection; fire loss analysis; organization and function of public and private fire protection services; fire departments as part of local government; laws and regulations affecting the fire service; fire service nomenclature; specific fire protection functions; basic fire chemistry and physics; introduction to fire protection systems; fire strategy and tactics; and components of the incident command system. (CSU—with unit limitation)

**FIRE 3 FIRE BEHAVIOR AND COMBUSTION**
Units: 3
Advisory: Completion of or concurrent enrollment in FIRE 1 or equivalent recommended
Hours: 54 lecture
Theory and fundamentals of how and why fires start, spread, and are controlled; an in-depth study of fire chemistry and physics, fire characteristics of materials, extinguishing agents, and fire control techniques. (CSU—with unit limitation)

**FIRE 4 FIRE PROTECTION EQUIPMENT AND SYSTEMS**
Units: 3
Advisory: Completion of or concurrent enrollment in FIRE 1 or equivalent
Hours: 54 lecture
Design and operation of fire detection and alarm systems, heat and smoke control systems, special protection and sprinkler systems, water supply for fire protection, and portable fire extinguishers. (CSU—with unit limitation)

**FIRE 5 FIRE PREVENTION TECHNOLOGY**
Units: 3
Advisory: Completion of or concurrent enrollment in FIRE 1 or equivalent recommended
Hours: 54 lecture
History and philosophy of fire prevention, organization and operation of a fire prevention bureau, use of fire codes, identification and correction of fire hazards, and the relationship of fire prevention with fire safety education and detection and suppression systems. (CSU—with unit limitation)

**FIRE 7 FUNDAMENTALS OF FIRE SERVICE OPERATIONS**
Units: 3
Advisory: Completion of or concurrent enrollment in FIRE 1 or equivalent recommended
Hours: 54 lecture
Fundamentals of fire department organization, management, and resources, and the use of those resources to control various emergencies. (CSU—with unit limitation)

**FIRE 8 BUILDING CONSTRUCTION FOR FIRE PROTECTION**
Units: 5
Advisory: Completion of or concurrent enrollment in FIRE 1 or equivalent recommended
Hours: 54 lecture
Components of building construction that relate to fire safety. Elements of construction and design of structures shown to be key factors when inspecting buildings, preplanning fire operations, and operating at fires. Development and evolution of building and fire codes studied in relationship to past fires in residential, commercial, and industrial occupancies. (CSU—with unit limitation)

**FIRE 10 FIREFIGHTER OCCUPATIONAL SAFETY AND SURVIVAL**
Units: 3
Hours: 54 lecture
Techniques of injury prevention and promotion of safety while conducting fire service operations. Covers use of safety equipment and self-contained breathing apparatus, federal and state occupational safety regulations, and analysis of firefighter fatalities through case studies. (CSU—with unit limitation)

**FIRE 28 INDEPENDENT STUDY**
Units: 1-3
Designed for Fire Technology students interested in furthering their knowledge at an independent study level in an area where no specific curriculum offering is currently available. Independent study problems might include, but are not limited to, research papers, special construction projects, and research projects. May be taken four times for credit. See Independent Study page in Catalog. (CSU—with unit limitation)

**FIRE 41 HAZARDOUS MATERIALS—OPERATIONAL LEVEL**
Units: 0.5-1
Hours: 16 lecture, .5 unit; 24 lecture, 1 unit
Operational level course covering common alarms, roles, and responsibilities, legal aspects, exposure and response safety, medical surveillance, recognition and identification, basic chemistry, personal protective equipment, scene management, preincident planning and table-top exercises. Meets federal and state training requirements. For state certification, students must achieve 80% or better on the written certification examination. (CSU—with unit limitation)

**FIRE 50 BASIC FIREFIGHTER TRAINING**
Units: 2
Hours: 45 (36 lecture, 9 laboratory)
Training in proper techniques to effectively and safely perform as a member of a fire crew in controlling and suppressing wildfire. Includes physics of fire behavior, complexities and inter-relationships of weather, topography, and wildland fuel beds in fire behavior, Incident Management Organization, personal safety, situational awareness and hazard recognition. Meets NWCG S-130/190 requirements. (CSU—with unit limitation)
FIRE 73 FIRE HYDRAULICS  
Units: 3  
Hours: 54 lecture  
Review of applied mathematics; hydraulic laws; and application of formulas and mental calculation to hydraulics and water supply problems, as applied to the fire service. (CSU—with unit limitation)

FIRE 74 FIRE APPARATUS AND EQUIPMENT  
Units: 3  
Hours: 54 lecture  
Principles and techniques for maintaining and operating fire service pumping and other mobile apparatus. Fire service equipment and apparatus troubleshooting; principles and techniques of preventive maintenance; construction and operation of fire service pumps and pump accessories; basic highway operating techniques for fire apparatus; fire apparatus specifications and testing procedures. (CSU—with unit limitation)

FIRE 75 WILDLAND FIRE CONTROL  
Units: 3  
Hours: 54 lecture  
Principles and techniques of wildland fire prevention, behavior, control, and suppression. Covers legal areas of wildland fire protection, mutual aid, fire investigating and reporting methods, and ecology factors of wildland and urban interface fires. Complies with S-190, Basic Wildland Fire Behavior certification. (CSU—with unit limitation)

FIRE 77 PUBLIC EDUCATION I  
Units: 2  
Hours: 40 lecture  
Systematic planning process for public education; communication skills; program evaluation; working with the media; integrating programs into schools; gaining community support; fire safety for children; interviewing and counseling juvenile fire setters; creating and using audio/visual resources, and idea and resource sharing. (not transferable)

FIRE 95 INTERNSHIP IN FIRE TECHNOLOGY  
Units: 0.5-4  
Designed for advanced students to work in an area related to their educational or occupational goal. Provides new on-the-job technical training under the direction of a worksite supervisor, allowing students to expand knowledge and skills in the chosen field. Mandatory orientation session and faculty approval to determine eligibility. Students may earn up to a total of 16 units in internship courses (any course numbered 95 and PDEV 94). (CSU—with unit limitation)

FIRE 100 FIREFIGHTER I ACADEMY  
Units: 17.5  
Prerequisite: Completion of FIRE 1 or equivalent with a grade of “C” or better, possession of a current Emergency Medical Technician certificate, and submission of a physician’s physical verification, including a spirometry test  
Corequisite: concurrent enrollment in PHED 200  
Hours: 500 (226 lecture, 274 laboratory)  
Designed for entry level firefighters. Approved by the CA State Board of Fire Services and Fire Marshal’s Office. When combined with a specified experience component leads to state certification as a Firefighter I. Includes: fire behavior, control techniques, ground operations, hazardous materials, incident command system, confined space awareness, auto extrication, salvage operations, and wildland fire behavior/control. Certificate of Completion issued with grade of “C” or better in both FIRE 100 and PHED 200. Physically demanding program. Materials fee required. (not transferable)

FIRE 150 COMMAND 1A-PRINCIPLES FOR COMPANY OFFICERS  
Units: 2  
Prerequisite: Completion of FIRE 241 or a certified Basic Incident Command System course  
Hours: 40 lecture  
Initial decision and action processes at a working fire: includes function of command, fire chemistry, fire behavior, pre-fire planning, fireground safety, resources, operations, and management. (CSU—with unit limitation)

FIRE 151 COMMAND 1B-INCIDENT MANAGEMENT FOR COMPANY OFFICERS  
Units: 2  
Prerequisite: Completion of FIRE 150 and 242 or completion of a State Fire Marshal certified Fire Command 1A class and certified ICS 200 and ICS 300 classes  
Hours: 40 lecture  
Responsibilities of the “first-in” officer at incidents. Emphasis on the development of management and decision-making practices required for the successful command of multi-casualty, hazardous materials, and wildland fire incidents. (CSU—with unit limitation)

FIRE 152 FIRE COMMAND 1C—I-ZONE FIRE FIGHTING FOR COMPANY OFFICERS  
Units: 2  
Prerequisite: Completion of FIRE 150, 151, and 241; or Fire Command 1A and 1B certified by the California State Fire Marshal and a certified Basic Incident Command System course  
Hours: 40 lecture  
Designed around the responsibilities of the company officer at a wildland/urban interface incident. Emphasis on fire environment, incident command system, I-zone operation principles, safety and survival, and I-zone incident operations. Meets established federal and state training guidelines. (CSU—with unit limitation)
FIRE 154 FIRE INVESTIGATION 1A—FIRE CAUSE, ORIGIN AND DETERMINATION
Formerly known as FIRE 62
Units: 2
Hours: 40 lecture
Skills to determine the cause of fire, its human and environmental effects, and to develop interpersonal skills needed to successfully investigate, apprehend, and convict an arsonist. (CSU—with unit limitation)

FIRE 155 FIRE INVESTIGATION 1B—TECHNIQUES OF FIRE INVESTIGATION
Units: 2
Prerequisite: Completion of FIRE 154
Hours: 40 lecture
Fire behavior; building construction; techniques required for incendiary, accidental, fatal, vehicle, wildland, and juvenile fire investigations; report writing; and evidence collection and preservation procedures. (CSU—with unit limitation)

FIRE 157 MANAGEMENT AND SUPERVISION FOR COMPANY OFFICERS
Formerly known as FIRE 64
Units: 2
Hours: 40 lecture
Concepts of supervision and management for fire company officers: decision-making for supervisors, leadership styles and techniques, policy development and procedures, time management, stress management, personnel appraisal, and guidelines. (CSU—with unit limitation)

FIRE 159 FIRE PREVENTION 1A (BRIDGE)—FIRE INSPECTION PRACTICES
Formerly known as FIRE 65
Units: 2
Advisory: Completion of FIRE 3, 4, and 5
Hours: 40 lecture
Provides a broad, technical overview of fire prevention codes and ordinances, inspection practices, extinguishing systems, and key hazards including flammable and combustible liquids and gases, explosives, and fireworks. (CSU—with unit limitation)

FIRE 160 FIRE PREVENTION 1B (BRIDGE) PROTECTION SYSTEMS & SPECIAL HAZARDS
Formerly known as FIRE 66
Units: 2
Prerequisite: FIRE 159 or State Fire Marshal certified Fire Prevention 1A course
Hours: 40 lecture
Focuses on the codes, ordinances, and statutes that pertain to fire prevention practices in California, including flammable and combustible liquids and gases, hazardous materials and explosives, fire extinguishers, fire suppression systems and detection and alarm systems. (CSU—with unit limitation)

FIRE 165 TRAINING INSTRUCTOR 1A
Formerly known as FIRE 164
Units: 1.5
Hours: 40 (24 lecture, 16 laboratory)
Methods and techniques for training in accordance with the latest concepts in career education: selecting, adapting, organizing, and using instructional materials appropriate for teaching cognitive lessons; criteria and methods to evaluate teaching and learning efficiency; apply major principles of learning through teaching demonstrations. (CSU—with unit limitation)

FIRE 166 TRAINING INSTRUCTOR 1B
Formerly known as FIRE 163
Units: 1.5
Prerequisite: Completion of FIRE 165 or State Fire Marshal certified Training Instructor 1A course
Hours: 40 (24 lecture, 16 laboratory)
Methods and techniques for training in accordance with the latest concepts in career education: selecting, adapting, organizing, and using instructional materials appropriate for teaching psychomotor lessons; criteria and methods to evaluate teaching and learning efficiency; apply major principles of learning through teaching demonstrations. (CSU—with unit limitation)

FIRE 167 TRAINING INSTRUCTOR 1C
Units: 1.5
Prerequisite: Completion of FIRE 166 with grade of “C” or better or State Fire Marshal certified Training Instructor 1B course
Hours: 40 (24 lecture, 16 laboratory)
The third of a three-course series. Topics include methods and techniques for developing lesson plans, ancillary components, and tests in accordance with the latest concepts in career education. Offers the opportunity to develop, receive feedback, and finalize instructional materials and deliver a teaching demonstration. (CSU—with unit limitation)

FIRE 201 WILDLAND FIRE SUPPRESSION TACTICS
Units: 1.5
Hours: 32 (27 lecture, 5 laboratory)
Application of tactical skills, including fireline construction, handcrews, mechanical equipment, water and chemicals, air operations, wildland/urban interface to mitigate wildland fires, and tactical deployment of resources into common objectives. Professional training course designed for chief and company officers, strike team or task force leaders. (not transferable)
FIRE 202 HAZARDOUS MATERIALS INCIDENT COMMANDER
Units: 1.5
Hours: 32 (28 lecture, 4 laboratory)
Principles and concepts of hazardous materials emergencies using the Incident Command System to safely and completely manage Haz Mat events. Professional training course prepares participants to assume role of Incident Commander and other command and general staff positions. For state certification, students must achieve 80% or better on the written examination. (not transferable)

FIRE 205 INCIDENT MANAGEMENT II
Units: 1.5
Hours: 36 (29 lecture, 7 laboratory)
Principles of incident organization for Initial Attack Commanders. Covers management and command concepts, size-up, strategy and tactics, resources, and communications. (not transferable)

FIRE 220 FIRE COMMAND 2A—COMMAND TACTICS AT MAJOR FIRES
Units: 2
Prerequisite: Completion of FIRE 150 and FIRE 241 or completion of the equivalent California State Fire Marshal courses
Hours: 40 lecture
Emphasis on the latest emergency management techniques, efficient utilization of resources and implementation of fire-ground safety principles when commanding multiple alarms or large suppression forces. (not transferable)

FIRE 221 FIRE COMMAND 2B—MANAGEMENT OF HAZ-MAT INCIDENTS
Units: 2
Prerequisite: Completion of FIRE 151, FIRE 220, and FIRE 241, or completion of the equivalent California State Fire Marshal courses
Hours: 40 lecture
Prepares individuals to manage a serious hazardous materials incident. Includes information and databases, organizations, agencies and institutions involved in hazardous materials response and research, planning for haz-mat problems, legislation, litigation, and liabilities. (not transferable)

FIRE 222 FIRE COMMAND 2C—HIGH RISE FIRE TACTICS
Units: 2
Prerequisite: Completion of FIRE 220 and FIRE 242, or the completion of the equivalent California State Fire Marshal courses
Hours: 40 lecture
Prepares individuals to mitigate high rise fire incidents. Includes occupant life safety in a high rise building, building design, fire protection systems, water systems, high rise incident command system, tactics and strategy, communications, training and firefighter safety and survival. (not transferable)

FIRE 223 FIRE COMMAND 2D—PLANNING FOR LARGE-SCALE DISASTERS
Units: 2
Prerequisite: Completion of FIRE 241 and FIRE 220 or completion of the equivalent California State Fire Marshal courses
Hours: 40 lecture
Emphasis on principles of disaster planning and management, fire service emergency plans, emergency operations centers, roles of local, state, and federal OES and emergency management agencies, multi-hazard and ICS planning techniques. Case studies analysis of natural and man-made disasters. (not transferable)

FIRE 224 FIRE COMMAND 2E—WILDLAND FIRE TACTICS
Units: 2
Prerequisite: Completion of FIRE 220 and 242, or completion of the equivalent California State Fire Marshal courses
Hours: 40 lecture
Designed for Chief Officers having command responsibilities at wildland fires. Course emphasizes fire safety, weather effects, fuels, fire behavior, initial attack methods, support equipment, topographic maps, air attack operations, strategy and tactics. (not transferable)

FIRE 241 INCIDENT COMMAND SYSTEM I-200
Units: 0.5
Hours: 12 lecture
Introduction to Incident Command System (ICS) National Training curriculum. Includes principles and features, organization overview, incident facilities, resources, and common responsibilities. (not transferable)

FIRE 242 I-300: INTERMEDIATE ICS FOR EXPANDING INCIDENTS
Units: 1
Prerequisite: Completion of FIRE 241 or equivalent NWCG course
Hours: 24 lecture
Covers organization and staffing, incident resources management, organizing for incidents or events, incident and event planning and air operations within the Incident Command System national training curriculum. (pass/no pass grading) (not transferable)

FIRE 243 I-400: ADVANCED ICS FOR COMPLEX INCIDENTS
Units: 0.5
Prerequisite: Completion of FIRE 242 or equivalent NWCG course
Hours: 16 lecture
Covers command and general staff, unified command, major incident management and area command within the Incident Command System national training curriculum. (pass/no pass grading) (not transferable)
FIRE 244 INCIDENT COMMAND SYSTEM: DIVISION/GROUP SUPERVISOR
Units: 1
Prerequisite: Completion of FIRE 241 or a Federal/State certified Basic Incident Command System course
Hours: 24 (16 lecture, 8 laboratory)
Management skills to perform specific responsibilities as Division/Group Supervisor for all-risk incidents within the Incident Command System. Emphasis on planning, supervision, and coordination. (not transferable)

FIRE 245 INCIDENT COMMAND SYSTEM: FIELD OBSERVER/DISPLAY PROCESSOR
Units: 1.5
Prerequisite: Completion of FIRE 241 or a federal/state certified Basic Incident Command System course
Hours: 32 lecture
Meets the training needs of the field observer/display processor in the planning section of the Incident Command System. Includes identifying and interpreting maps, map calculations, observation aids, mapping from aircraft, field observations, processing and displaying data. (not transferable)

FIRE 246 INCIDENT COMMAND SYSTEM: STRIKE TEAM/TASK FORCE LEADER
Units: 1.5
Prerequisite: Completion of FIRE 241 or a Federal/State certified Basic Incident Command System course
Hours: 32 lecture
Orientation to the basic responsibilities of a strike team/task force leader. Includes strike team concept, types of strike teams, pre-incident responsibilities, assembly and travel, incident arrival and check-in, assigned/available and out-of-service status, and demobilization/release. (not transferable)

FIRE 247 INCIDENT COMMAND SYSTEM: OPERATIONS SECTION CHIEF
Units: 2
Prerequisite: Completion of FIRE 242, 244, and 246
Hours: 40 lecture
Management skills needed to perform as an Operations Section Chief under the Incident Command System. Includes command concepts, organization, briefing, operations plan, action plan, supervising operations, staging areas, and identification and release of excess resources. (not transferable)

FIRE 262 FIRE INVESTIGATION 2A: CRIMINAL & LEGAL PROCEDURES
Units: 2
Prerequisite: Completion of FIRE 154 and 155 or Fire Investigation 1A and 1B certified by CA State Fire Marshal’s Office
Hours: 40 lecture
Provides skills to successfully investigate, apprehend, and convict arsonists. Topics include explosives, surveillances, search and seizure, search warrants, report writing, trial process and courtroom demeanor. (not transferable)

FIRE 263 FIRE INVESTIGATION 2B: FIELD CASE STUDIES
Units: 2
Prerequisite: Completion of FIRE 262 or Fire Investigation 2A certified by California State Fire Marshal’s Office
Hours: 40 lecture
Advanced instruction in fire scene investigation, includes documenting the scene with photography and sketching, collecting evidence, preparing court exhibits, interviewing and interrogating suspects. Extensive use of simulations for presenting an arson case to a district attorney and judge and testifying as an expert witness. (not transferable)

FIRE 400 SELECTED TOPICS IN FIRE TECHNOLOGY
Units: 0.5-4
Courses of study will cover topics relevant to the discipline. Topics will vary. Course content and unit credit to be determined by the division. May be offered as seminar, lecture, or lecture/laboratory classes. Students may repeat “400” courses within a discipline only when a topic is different from previously completed course. See Selected Topics page in catalog. (not transferable)

FIRE 603 HAZ-MAT FIRST RESPONDER OPERATIONAL/CONFINED SPACE REFRESHER
Units: 0.5
Prerequisite: Completion of FIRE 41 and 637 or possession of either federal or state haz-mat first responder-operational certification
Hours: 9 lecture
Reinforcement of basic knowledge, emphasizing new and updated information related to hazardous materials and confined space incidents. Meets federal and state requirements for annual retraining. For state certification, students must achieve 80% or better on the written certification examination. May be repeated for credit to meet legally mandated requirements. (pass/no pass grading) (not degree applicable)

FIRE 608 BASIC STRUCTURAL FIREFIGHTER
Units: 4.5
Hours: 150 (55 lecture, 95 laboratory)
Enter-level course for volunteer firefighters. Topics include fire behavior, safety, personal protective equipment, forcible entry, rescue, ground ladders, hoses, fire streams and nozzles, and fire control principles. (pass/no pass grading) (not degree applicable)

FIRE 610 SWIFT WATER RESCUE AWARENESS
Units: 0.5
Hours: 9 lecture
A basic swift water rescue course for emergency services. Includes water rescue environments and hazards, legal obligations, site safety, water rescue equipment, hydrology and swift water hazards, and low- to high-risk rescue options. May be taken four times for credit. (pass/no pass grading) (not degree applicable)
FIRE 611 SWIFT WATER RESCUE TECHNICIAN I
Units: 0.5
Hours: 24 (8 lecture, 16 laboratory)
Basic swift water rescuer skills including water dynamics and hydrology, handling hazards and obstacles, rescuer safety, basic boat-related rescues, technical rescue systems, and controlling in-water contact rescues. Professional training course for those responsible for conducting swift water rescues. (pass/no pass grading) (not degree applicable)

FIRE 612 SWIFT WATER RESCUE ADVANCED
Units: 0.5
Prerequisite: FIRE 611 or completion of a certified Swiftwater Rescue Technician I course within previous 3 years
Hours: 32 (8 lecture, 24 laboratory)
Advanced swift water rescue emphasizing specialized experimental equipment, rescue/recovery management, safety and protection considerations, active and passive search techniques, rope management, and problem solving exercises. May be taken four times for credit. (pass/no pass grading) (not degree applicable)

FIRE 618 FIRE CONTROL 4A AND 4B-FLAMMABLE GASES AND LIQUIDS
Units: 0.5
Hours: 11 (8 lecture, 3 laboratory)
Examines flammable gases and liquids including characteristics, hazards, and tactics, through case studies and field exercises. (pass/no pass grading) (not degree applicable)

FIRE 620 WILDLAND CHAIN SAW S
Units: 0.5
Hours: 16 (8 lecture, 8 laboratory)
Chain saw nomenclature, safety equipment, proper operating techniques, OSHA safety requirements, routine maintenance, field problems and repair. (pass/no pass grading) (not degree applicable)

FIRE 621 WILDLAND CHAIN SAW TECHNIQUES
Units: 1
Hours: 24 (16 lecture, 8 laboratory)
Chain saw operations emphasizing tree terminology, safety aspects, state/federal requirements, recognizing and handling hazards, felling and bucking procedures, brushing and fire lines. (pass/no pass grading) (not degree applicable)

FIRE 624 CAL FIRE FIREFIGHTER BASIC ACADEMY
Units: 2.5
Hours: 67 (44 lecture, 23 laboratory)
Basic firefighting course covering fire physics, vegetation fire terminology, general safety, self-contained breathing apparatus, fireline safety, aircraft safety, mobile equipment, fire equipment, and wildland and structure firefighting. Meets minimum training requirements for CAL FIRE Firefighter I personnel. (pass/no pass grading) (not degree applicable)

FIRE 626 WILDLAND FIREFIGHTER SURVIVAL
Units: 0.5
Hours: 9 lecture
Review of incidents where firefighters were injured or killed. Emphasis on errors in judgment and/or execution to identify what went wrong and how to prevent future accidents. May be taken four times for credit. (pass/no pass grading) (not degree applicable)

FIRE 630 IN-SERVICE TRAINING
Units: 0.5-3
Prerequisite: FIRE 100 or equivalent fire academy course
Hours: 54 laboratory per unit
Satisfies standards for in-service training for fire service personnel in areas of knowledge, techniques and perishable skills. Includes administrative issues, engine and truck operations, fire control, emergency medical services, hazardous materials, rescues, command and control, fire prevention, pre-fire planning, specialized equipment and wellness and fitness. May be repeated for credit to meet legally mandated education/training requirements. (pass/no pass grading) (not degree applicable)

FIRE 632 AUTO EXTRICATION
Units: 0.5
Hours: 16 (8 lecture, 8 laboratory)
Essentials of scene evaluation and extrication size up, types of tools and their application, how to remove windows, doors, roofs, and safely perform extrications from vehicles with various passenger restraint systems. (pass/no pass grading) (not degree applicable)

FIRE 634 DRIVER OPERATOR 1A-EMERGENCY VEHICLE OPERATION
Units: 1.5
Prerequisite: California Driver License, Class B, firefighter restricted (minimum)
Hours: 40 (25 lecture, 15 laboratory)
Designed to provide the student with information on driver techniques for emergency vehicles and techniques of basic inspection and maintenance for emergency vehicles. (pass/no pass grading) (not degree applicable)

FIRE 635 DRIVER/OPERATOR 1B—PUMP OPERATIONS
Units: 1.5
Prerequisite: California Driver License, Class B, firefighter restricted (minimum)
Hours: 40 (25 lecture, 15 laboratory)
Provides information, theory, methods, and techniques for operating fire service pumps. Subjects include types of pumps, engine and pump gauges, maintenance, unsafe pumping conditions, pressure conditions, pressure relief devices, cooling systems, water supplies, drafting, field hydraulics, and pumping operations. (pass/no pass grading) (not degree applicable)
FIRE 637 Confined Space Awareness
Units: 0.5
Hours: 9 lecture
Codes that impact operations within confined spaces. Information to identify confined spaces and permit confined spaces. Hazards of confined spaces, equipment and procedures required to perform a rescue safely and legally. For certification, students must achieve 80% or better on the written examination. (pass/no pass grading) (not degree applicable)

FIRE 638 Low Angle Rope Rescue Operational
Units: 0.5
Hours: 24 (8 lecture, 16 laboratory)
Principles of heavy rescue scene operations, including organization, procedures, resources, rescue ropes and related equipment, rescuer packaging, ladder rescue systems, safety lines, anchor and brake systems, and rappelling. (pass/no pass grading) (not degree applicable)

FIRE 639 Ethical Leadership in the Classroom
Units: 0.5
Hours: 9 lecture
An examination of fundamental ethical values of fire service instructors by exploring examples of ethical behavior in the classroom environment. Includes basic concepts, terms and theories of ethical decision making, code of ethics, and concepts in ethical leadership. (pass/no pass grading) (not degree applicable)

FIRE 640 Hazardous Materials Technician 1A, Basic Chemistry
Units: 2
Prerequisite: Completion of FIRE 41 or approved Federal/State equivalent course
Hours: 40 lecture
Basic aspects of chemistry and physics related to management of a hazardous materials incident. Covers physical and chemical properties of matter, atomic structure, periodic table, metals and non-metals, salts, hydrocarbons and derivatives, forms of energy, the combustion process, flammable and combustible liquids. Meets standards prescribed by the CA State Fire Marshal, and Office of Emergency Services. (pass/no pass grading) (not degree applicable)

FIRE 641 Hazardous Materials Technician 1B, Applied Chemistry
Units: 1.5
Prerequisite: Completion of FIRE 640 or approved Federal/State equivalent course(s)
Hours: 40 (24 lecture, 16 laboratory)
Basic terminology and theory of chemistry as it relates to hazardous materials. Covers chemical aspects of the hazard classes, toxicology, including hazard and risk assessment, function and use of detection instruments, monitoring hazardous atmospheres and use of a field identification kit to identify unknown solids and liquids. Meets standards prescribed by the CA State Fire Marshal and Office of Emergency Services. (pass/no pass grading) (not degree applicable)

FIRE 642 Hazardous Materials Technician 1C, Incident Considerations
Units: 1.5
Prerequisite: Completion of FIRE 641 or approved Federal/State equivalent course(s)
Hours: 40 (26 lecture, 14 laboratory)
Hazardous materials on-scene incident considerations. Covers data research, meteorological considerations, protective actions, personal protective equipment, incident command aspects, site safety concepts, legislative and regulatory measures influencing emergency response and contingency planning. Meets standards prescribed by the CA State Fire Marshal and Office of Emergency Services. (pass/no pass grading) (not degree applicable)

FIRE 643 Hazardous Materials Technician 1D, Tactical Field Operations
Units: 1.5
Prerequisite: Completion of FIRE 642 or approved Federal/State equivalent course(s)
Hours: 40 (24 lecture, 16 laboratory)
Experience with tactical field operations. Covers confinement, control, hazmat triage and sabotage, performing in chemical protective clothing, preservation of evidence, decontamination, and emergency medical system considerations. Meets standards prescribed by the CA State Fire Marshal and Office of Emergency Services. (pass/no pass grading) (not degree applicable)

FIRE 644 Hazardous Materials Specialist 1F
Units: 1.5
Prerequisite: Completion of FIRE 643 or approved Federal/State equivalent course
Hours: 40 (32 lecture, 8 laboratory)
Introduction to mitigation techniques. Includes plugging, patching and repairing methods; advanced chemical field identification testing procedures, and fixed facility repair considerations. Part one of a two part series leading to certification as a Hazardous Materials Specialist. Meets requirements of CA Code of Regulations Title 8, Section 519(q). (pass/no pass grading) (not degree applicable)
FIRE 645 HAZARDOUS MATERIALS SPECIALIST 1G
Units: 1
Prerequisite: Completion of FIRE 644 or approved federal/state equivalent course
Hours: 40 (16 lecture, 24 laboratory)
Covers material presented in Hazardous Materials Courses 1A–1F in an environment of scenario based full scale exercises. Participants evaluated for their ability to perform and be certified as a member of a Hazardous Materials Team. (pass/no pass grading) (not degree applicable)

FIRE 646 HAZ-MAT FIRST RESPONDER OPERATIONAL/DECONTAMINATION
Units: 0.5
Prerequisite: Completion of FIRE 41 or equivalent California State Fire Marshal's Office course
Hours: 9 lecture
Meets California state requirements for those required to have haz-mat decontamination training. Includes principles of decontamination, Haz-Mat Incident Command System, decontamination leader and corridor, chemical protective clothing (CPC), respiratory protection, using self-contained breathing apparatus and CPC, medical considerations for wearing CPC, and emergency hand signals. (pass/no pass grading) (not degree applicable)

FIRE 650 RESCUE SYSTEMS I
Units: 1.5
Prerequisite: Completion of FIRE 638 with grade of "C" or better or completion of a State Fire Marshal approved Low Angle Rope Rescue Operational course or equivalent
Hours: 40 (21 lecture, 19 laboratory)
Rescue systems, ropes and related equipment, heavy object operations, breaking and breaching operations, ladder rescues, and emergency shoring. Required for CA Urban Search and Rescue basic and light operational level training. (pass/no pass grading) (not degree applicable)

FIRE 655 RAPID INTERVENTION CREW TACTICS
Units: 0.5
Prerequisite: FIRE 100 or equivalent CA State Fire Marshal training and assignment to participate by a fire agency
Hours: 16 (8 lecture, 8 laboratory)
A safety course for structural fire fighters. Covers history of fire fighter injuries and fatalities, techniques of rapid intervention crews, techniques of self-survival, and application of rescue methods. May be taken four times for credit. (pass/no pass grading) (not degree applicable)

FIRE 690 INTRODUCTION TO WILDLAND FIRE BEHAVIOR S-190
Units: 0.5
Hours: 9 lecture
Wildland fire behavior factors important for understanding fire spread principles and applying safe and effective suppression techniques. Meets standards prescribed by the National Wildfire Coordination Group and the CA Incident Command Certification System for S-190 certification. (pass/no pass grading) (not degree applicable)

FIRE 691 INTERMEDIATE WILDLAND FIRE BEHAVIOR S-290
Units: 1.5
Prerequisite: Completion of FIRE 690 or a certified S-190 course as prescribed by the National Wildfire Coordinating Group
Hours: 32 lecture
Covers fire behavior prediction skills and knowledge related to wildland fires. Meets standards prescribed by the National Wildfire Coordinating Group and the CA Incident Command Certification System for S-290 certification. (pass/no pass grading) (not degree applicable)

FIRE 692 WILDLAND FIRE BEHAVIOR CALCULATIONS—S390
Units: 0.5
Prerequisite: FIRE 691 or completion of a S-290 course as prescribed by the National Wildfire Coordination Group and qualified as a Single Resource Boss
Hours: 16 lecture
Introduces fire behavior calculations by manual methods. Covers determinants and interpretations of fire behavior inputs and outputs and skills to help in fire management decisions. Meets standards prescribed by the National Wildfire Coordinating Group and the CA Incident Command Certification System for S-390 certification. (pass/no pass grading) (not degree applicable)

FIRE 693 ENGINE BOSS S-231
Units: 0.5
Prerequisite: Completion of FIRE 691 and National Wildfire Coordinating Group Course S-230
Hours: 9 lecture
Covers tactical decisions required of an Engine Boss to safely suppress a fire. Emphasis on coordination, communication and tactical safety. Complies with National Wildfire Coordinating Group 310-1 Standards for S-231 certification. (pass/no pass grading) (not degree applicable)
French

LIBERAL ARTS
DEAN: Debra Sutphen
ASSOCIATE DEAN: Rebecca Bocchicchio
DIVISION OFFICE: W 107
FACULTY: L. Lambert
LIAISON COUNSELORS: D. Quadros, V. Skeels

The active part that the United States is now taking in world affairs makes it desirable that a greater number of Americans than ever before have a knowledge of foreign languages and cultures. A language background should be of intrinsic value. The acquisition of desired practical communication skills in the study of modern foreign language is the primary objective. This can be accomplished by the oral approach, motivated by lectures, and implemented by the language laboratory.

TRANSFER MAJOR REQUIREMENTS in Foreign Language are available in the Counseling Center. In all cases, students should consult with a counselor for specific transfer requirements. Four-year graduates in Foreign Language are qualified for positions in teaching, business, foreign services, law enforcement, nursing, secretarial, and diplomatic services.

French Courses

FREN 1 ELEMENTARY FRENCH
Units: 4
Hours: 90 (72 lecture, 18 laboratory)
Listening, speaking, reading, and writing in French. Fundamentals of French pronunciation and grammar. Introduction to the culture of the French-speaking people. Corresponds to two years of high school study. (CSU, UC)

FREN 2 ELEMENTARY FRENCH
Units: 4
Prerequisite: Completion of FREN 1 with a grade of C or better, or the equivalent, or two years of high school French
Hours: 90 (72 lecture, 18 laboratory)
Continuation of FREN 1 with greater emphasis on speaking and writing. Explores culture, historical figures, and events of the areas where French is spoken. (CSU, UC)

FREN 3 INTERMEDIATE FRENCH
Units: 4
Prerequisite: Completion of FREN 2 or equivalent
Hours: 90 (72 lecture, 18 laboratory)
Designed for those who have had previous training in the French language. Review of grammar with increased emphasis upon speaking and linguistic structure of the language, reading of excerpts from works of French-speaking authors, study of cultural distinctions among the French-speaking peoples, and writing at the intermediate level. (CSU, UC)

FREN 4 INTERMEDIATE FRENCH
Units: 4
Prerequisite: Completion of FREN 3 or four years of high school French
Hours: 90 (72 lecture, 18 laboratory)
Designed for those who have had previous training in the French language. Study of advanced grammar with increased emphasis upon the skills of reading and interpreting works of French literature. Greater focus upon writing and speaking skills. (CSU, UC)

FREN 28 INDEPENDENT STUDY
Units: 1-3
Designed for students interested in furthering their knowledge at an independent study level in an area where no specific curriculum offering is currently available. Independent study might include, but is not limited to, research papers, special subject area projects, and research projects. May be taken four times for credit. See Independent Study page in catalog. (CSU, UC—with unit limitation)

FREN 300 SELECTED TOPICS IN FRENCH
Units: 0.5-4
Courses of study will cover topics relevant to the discipline. Topics will vary. Course content and unit credit to be determined by the division. May be offered as seminar, lecture, or lecture/laboratory classes. Students may repeat “300” courses within a discipline only when a topic is different from previously completed course. See Selected Topics page in catalog. (CSU, UC—with unit limitation)

FREN 300F CULTURE AND CIVILIZATION OF FRANCE
Units: 3
Hours: 54 lecture
The history, geography, social institutions, literature, art, architecture and music of France from their beginnings to modern times. Conducted in English. (CSU, UC)

Geographic Information Systems (GIS)
(See Engineering Support Technology and Geography)
The Geography Department offers courses in both physical and cultural geography, as well as in weather and climate. These courses give a general educational background for those wishing to pursue an academic major in geography or meteorology.

TRANSFER MAJOR REQUIREMENTS in Geography or Meteorology are available in the Counseling Center. In all cases, students should consult with a counselor for specific transfer requirements.

**GEOGRAPHIC INFORMATION SYSTEMS (GIS) SKILLS CERTIFICATE**

Designed for students to gain a solid foundation in GIS theory and related technologies, such as GPS and remote sensing, used across disciplines for mapping purposes and spatial analysis. Sequence courses build upon each other to provide hands-on technical skills demanded of professional workforce, culminating with professional portfolio. Demand for interns and entry-level positions & technicians is strong provided students learn industry standard software, GPS skills, database management, mapping design, and chose optional courses, such as computer-aided design (CAD), graphic design, as well as participate in a GIS internship. A certificate is designed to provide career technical skills; it is not equivalent to an A.A. or A.S. degree.

**REQUIRED COURSES**

<table>
<thead>
<tr>
<th>COURSE</th>
<th>UNITS</th>
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</thead>
<tbody>
<tr>
<td>GEOG 86 Global Positioning System (GPS) For GIS</td>
<td>1</td>
</tr>
<tr>
<td>GEOG 90 Introduction to Geographic Information Systems (GIS) (also EST 90)</td>
<td>3</td>
</tr>
<tr>
<td>GEOG 92 Intermediate GIS</td>
<td>3</td>
</tr>
<tr>
<td>GEOG 93 Advanced GIS</td>
<td>3</td>
</tr>
</tbody>
</table>

**PLUS 6 ADDITIONAL UNITS FROM THE FOLLOWING:**

<table>
<thead>
<tr>
<th>COURSE</th>
<th>UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 90 Database Management</td>
<td>3</td>
</tr>
<tr>
<td>EST 5 Computer-Aided Drafting IA</td>
<td>3</td>
</tr>
<tr>
<td>EST 6 Computer-Aided Drafting IB</td>
<td>3</td>
</tr>
<tr>
<td>GEOG 95 Internship in Geography</td>
<td>1-3</td>
</tr>
</tbody>
</table>

**TOTAL UNITS REQUIRED:** 16

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**Geography Courses**

**GEOG 1 PHYSICAL GEOGRAPHY**

*Units: 3*
*Advisory: Eligibility for ENGL 1A or ESL 40W*
*Hours: 54 lecture*

Study of earth’s landforms, spatial location and processes including the atmosphere, its weather, climate regions, the hydrosphere; oceans, clouds, rivers; the biosphere and the solid earth, its landforms and the forces that shape them. (CSU, UC)

**GEOG 1L PHYSICAL GEOGRAPHY LABORATORY**

*Units: 1*
*Prerequisite: Completion of or concurrent enrollment in GEOG 1*
*Hours: 54 laboratory*

Earth’s physical systems, atmosphere, weather and climate, landforms and fluvial systems; includes map reading and aerial photography interpretation. (CSU, UC—with unit limitation)

**GEOG 2 CULTURAL GEOGRAPHY**

*Units: 3*
*Advisory: Eligibility for ENGL 1A or ESL 40W*
*Hours: 54 lecture*

Diverse patterns of cultural development including population, religion, languages, political systems and other societal characteristics. Analysis of spatial differences of cultures including housing types, city planning, agricultural techniques, and popular and folk customs. Investigation of humans as the primary modifier of the physical landscape within the limits of the earth’s resources. (CSU, UC)

**GEOG 3 GEOGRAPHY OF CALIFORNIA**

*Units: 3*
*Advisory: Completion of English 50, or eligibility for English 11, or equivalent strongly recommended*

An introduction to California’s diversified geography including climate, landforms, natural vegetation, and water resources, the cultural landscapes of ethnic diversity, our Native American past, urban and agricultural regions, and the economic challenges of the future. Emphasis on cultural diversity, human alteration of the landscape, contemporary problems and resource competition. (CSU, UC)

**GEOG 4 WEATHER AND CLIMATE**

*Units: 3*
*Advisory: Completion of ENGL 50, or eligibility for ENGL 11, or equivalent strongly recommended*
*Hours: 54 lecture*

The elements and controls of weather and climate—atmospheric heating, the heat budget, air circulation and winds, moisture, clouds, and precipitation; world climates, their elements and classifications; climate variations and changes. (CSU, UC)
GEOG 4L WEATHER AND CLIMATE LABORATORY
Units: 1
Advisory: Completion of or concurrent enrollment in GEOG 4
recommended
Hours: 54 laboratory
Practical application of weather principles and concepts taught in Weather and Climate course through lab exercises and access of weather data through computers. (CSU)

GEOG 5 WORLD REGIONAL GEOGRAPHY
Units: 3
Advisory: Completion of ENGL 50, or eligibility for ENGL 11, or equivalent strongly recommended
Hours: 54 lecture
An introduction to the world’s major geographic regions; their cultural practices, politics, economics, religions, history and environmental characteristics. Location and analysis of important geographic features including mountains, rivers, countries and major cities of Asia, Australia, Africa, North America, Europe and South America. (CSU, UC)

GEOG 11 URBAN GEOGRAPHY OF SAN FRANCISCO
Units: 1
Hours: 30 (12 lecture, 18 laboratory)
This field course explores the cultural, economic and urban geography of San Francisco. Introduction to the area’s diversified geography including its location, ethnic diversity, urban settlement patterns and an overview of historical and economic regions. (CSU)

GEOG 12 HISTORICAL GEOGRAPHY OF NORTHERN CALIFORNIA COMMUNITIES
Units: 1
Hours: 30 (12 lecture, 18 laboratory)
This field course explores cultural and historical geography of Northern California communities. Introduction to Northern California’s diversified geography including physical landforms, economic diversity, settlement patterns and history of the Northern California communities. May be taken four times for credit. (CSU)

GEOG 14 FIELD GEOGRAPHY OF YOSEMITE AND THE EASTERN SIERRA
Units: 2
Hours: 54 (27 lecture, 27 laboratory)
Examination of physical and cultural geography of Yosemite Valley/the Eastern Sierra. Emphasis of fluvial and glacial landforms, geological patterns, weather, and climate regions, and the distribution of water resources. Cultural geographies include patterns of Native American settlements, pioneer encampments and historic structures. (CSU)

GEOG 15 FIELD GEOGRAPHY OF NORTHERN CALIFORNIA
Units: 0.5
Hours: 13 (7 lecture, 6 laboratory)
Investigation of cultural and physical geography of a region in Northern California. Introduction to the area’s diversified geography including its location, physical landforms, economic diversity, urban settlement patterns or an overview of historical and cultural regions. Topical emphasis will vary from class to class. May be taken four times for credit. (CSU)

GEOG 16 FIELD GEOGRAPHY
Units: 1-2
Hours: 30 (12 lecture, 18 laboratory) per unit
Field lecture courses to regions of geographic interest to include physical, cultural, urban and/or historical elements. May be taken four times for credit. (CSU)

GEOG 28 INDEPENDENT STUDY
Units: 1-3
Designed for students interested in furthering their knowledge at an independent study level in an area where no specific curriculum offering is currently available. Independent study might include, but is not limited to, research papers, special subject area projects, and research projects. May be taken four times for credit. See Independent Study page in catalog. (CSU, UC—with unit limitation)

GEOG 85 APPLICATION OF GIS AND RELATED TECHNOLOGIES
Units: 1
Hours: 18 lecture
Investigation of GIS case studies used in government and industry; explores how all industries use GIS with emphasis on natural resource management and watershed analysis. Additional focus on remote sensing and aerial photography. Hands-on experience using Global Positioning Systems (GPS) technology. (CSU)

GEOG 86 GLOBAL POSITIONING SYSTEM (GPS) FOR GIS
Units: 1
Hours: 18 lecture
Theory and hands-on training to integrate the Global Positioning System (GPS) into the Geographic Information System (GIS) for mapping purposes. Use of both amateur and professional Trimble GPS units. Focus on GPS technology, remotely-sensed imagery, the GIS, data dictionaries, and mapmaking based upon field collected data. Analysis of case studies. Student project to collect and integrate the GPS with the GIS. (CSU)
**GEOG 90 INTRODUCTION TO GEOGRAPHIC INFORMATION SYSTEMS (GIS)**
Also known as EST 90  
Units: 3  
Hours: 54 lecture  
Interdisciplinary course to introduce theoretical background of Geographic Information Systems (GIS). Explores how GIS solves spatial problems, such as those in natural resources, earth and life sciences, environmental planning, local government, business and marketing, transportation, and other fields. (CSU)

**GEOG 91A BEGINNING ARC GIS SOFTWARE**
Also known as CIS 87, ESCI 91A, EST 91A  
Units: 1  
Hours: 18 lecture  
Introduction to Geographic Information Systems (GIS) mapping software used to manage, analyze and display spatial information. Create reports and map layouts, query geographic databases, and solve spatial problems. Emphasis on using GIS software for practical applications in the fields of natural resource management, disaster mapping, cartographic design, urban planning, business and other related fields. (CSU)

**GEOG 91B INTERMEDIATE ARC GIS SOFTWARE**  
Units: 1  
Prerequisite: Completion of or concurrent enrollment in GEOG 91A, or equivalent  
Hours: 18 lecture  
Builds on principles from GEOG 91A, focusing on queries, managing and preparing data for analysis, creating and editing GIS data, Geodatabases, spatial analysis and producing map layouts. (CSU)

**GEOG 92 INTERMEDIATE GIS**  
Units: 3  
Prerequisite: Completion of GEOG 90/EST 90  
Hours: 54 lecture  
Advances theoretical and practical knowledge of collecting, inputting and organizing spatial data. Includes working with Geodatabases, importing CAD and GPS data, digitizing geographic layers and other means of increasing GIS functionality. Focus on case studies. (CSU)

**GEOG 93 ADVANCED GIS**  
Units: 3  
Prerequisite: Completion of GEOG 92  
Hours: 54 lecture  
Builds on Intermediate GIS with a focus on advanced technical skills and mapping, such as completing a research project and building a map portfolio. Working with spatial databases, GIS models, extensions, vector and raster analysis, cartographic presentation and large-format output are examined. (CSU)

**GEOG 95 INTERNSHIP IN GEOGRAPHY**  
Units: 0.5-4  
Designed for advanced students to work in an area related to their educational or occupational goal. Provides new on-the-job technical training under the direction of a worksite supervisor, allowing students to expand knowledge and skills in the chosen field. Mandatory orientation session and faculty approval to determine eligibility. Students may earn up to a total of 16 units in internship courses (any course numbered 95 and PDEV 94). (CSU—with unit limitation)

**GEOG 300 SELECTED TOPICS IN GEOGRAPHY**  
Units: 0.5-4  
Courses of study will cover topics relevant to the discipline. Topics will vary. Course content and unit credit to be determined by the division. May be offered as seminar, lecture, or lecture/laboratory classes. Students may repeat “300” courses within a discipline when a topic is different from previously completed course. See Selected Topics page in catalog. (CSU, UC—with unit limitation)

**GEOG 301 GEOGRAPHY OF NEW ZEALAND**  
Units: 4  
Hours: 108 (54 lecture, 54 laboratory)  
Study of environmental and human geographies of New Zealand. Includes physical geography of island volcanism, tectonic activity, glaciation, fluvial and coastal landforms, weather, climate and bio-geography. Cultural studies include history of native Maori peoples, the colonization period and current economic, ethnic, demographic and political geographies. (CSU, UC)

**GEOG 351 GEOGRAPHY OF ARGENTINA**  
Units: 3  
Hours: 54 lecture  
Introduction to the physical geography of Argentina through the exploration of its regions, such as the Patagonian steppe desert and mountain forests, the high Andes, the Pampas grasslands, the Chaco woodlands, the Parana Jungle and the Ibera Wetlands. Includes a historical view of the impact of population growth on each region, and an assessment of the current state of conservation of each ecological region. (CSU, UC)

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**Geology**  
(See Earth Science)
German

LIBERAL ARTS
DEAN: Debra Sutphen
ASSOCIATE DEAN: Rebecca Bocchicchio
DIVISION OFFICE: W 107
LIAISON COUNSELORS: D. Quadros, V. Skeels

The active part that the United States is taking in world affairs makes it desirable that a greater number of Americans than ever before have a knowledge of foreign languages and cultures. A language background should be of intrinsic value. The acquisition of desired practical communication skills in the study of modern foreign language is the primary objective. This can be accomplished by the oral approach, motivated by lectures, and implemented by the language laboratory.

TRANSFER MAJOR REQUIREMENTS in Foreign Language are available in the Counseling Center. In all cases, students should consult with a counselor for specific transfer requirements. Four-year graduates in Foreign Language are qualified for positions in teaching, business, foreign services, law enforcement, nursing, secretarial, and diplomatic services.

German Courses

GER 1 ELEMENTARY GERMAN
Units: 4
Hours: 90 (72 lecture, 18 laboratory)
Introduction to German language and culture, including speaking, listening, linguistic and grammatical structure, reading, pronunciation and intonation patterns. Corresponds to two years of high school study. (CSU, UC)

GER 2 ELEMENTARY GERMAN
Units: 4
Prerequisite: Completion of GER 1A and 1B, or GER 1, or two years of high school German
Hours: 90 (72 lecture, 18 laboratory)
Designed for those who have had previous training in the German language. Continuation of GER 1. Emphasis on speaking, listening, linguistic and grammatical structure, reading, writing. Further study of learning pronunciation and intonation patterns, together with continued discussion of unique cultural characteristics of the German-speaking peoples. Students will continue to memorize dialogues, become knowledgeable of utilizing a substantial vocabulary, and conduct translations of culturally meaningful reading selections. (CSU, UC)

GER 28 INDEPENDENT STUDY
Units: 1-3
Designed for students interested in furthering their knowledge at an independent study level in an area where no specific curriculum offering is currently available. Independent study might include, but is not limited to, research papers, special subject area projects, and research projects. May be taken four times for credit. See Independent Study page in catalog. (CSU, UC—with unit limitation)

Health Education

BUSINESS, APPLIED ACADEMICS, & PHYSICAL EDUCATION
DEAN: Luis Sanchez
ASSOCIATE DEAN: Darlene Jackson
DIVISION OFFICE: B 3
FACULTY: D. Brownell, M. Conway, R. Goldenberg
LIAISON COUNSELORS: C. Epting-Davis, S. Muraki
Health Education stresses the mental, social and physical well being of the individual.

TRANSFER MAJOR REQUIREMENTS in Health Education, Recreation, Physical Education, and Athletics are available in the Counseling Center. Students should consult with a counselor for specific transfer requirements. Four-year graduates in Health Education, Recreation, Physical Education, and Athletics qualify for employment in private industry and recreational agencies and are prepared to seek teaching credentials in elementary or secondary education.

Health Education Courses

HED 1 STANDARD FIRST AID/COMMUNITY CPR
Units: 2
Hours: 36 lecture
Includes recognition and treatment for cardiac and respiratory emergencies, first aid for bleeding, shock, burns, poisoning, stroke, and various injuries. Satisfies the basic level of training required by the Occupational Safety and Health Administration. American Red Cross Standard First Aid and Community CPR certificates issued upon successful completion of Red Cross requirements. (CSU, UC)

HED 2 HEALTH EDUCATION
Units: 3
Hours: 54 lecture
Survey of major health issues, including emotional health, drug abuses (alcohol, tobacco, and other commonly abused drugs), nutrition, personal fitness, family planning (courtship, marriage, fertility management), chronic diseases, infectious diseases, overpopulation, and pollution. (CSU, UC)
HED 10 HEALTH AND AGING
Units: 3
Hours: 54 lecture
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. (CSU)

HED 810 CHOICES IN LIFE AND DEATH
Units: 0
Hours: 8 to 54 lecture as scheduled
Medical treatment decision-making and its ethical implications. Includes informed consent, advanced directives, issues relating to assisted suicide, truth-telling, organ donation, genetic testing, fetal-tissue research, managed care and its impact. May be repeated. (noncredit)

Health Sciences

BUSINESS, APPLIED ACADEMICS, & PHYSICAL EDUCATION
DEAN: Luis Sanchez
ASSOCIATE DEAN: Darlene Jackson
DIVISION OFFICE: B 3
AREA OFFICE: Room 205, Roseville Gateway Center,
Phone (916) 781-6250
LIAISON COUNSELORS: C. Epting-Davis, S. Muraki

Health Science courses are primarily designed as first responder basic life support training for the fire service, emergency medical services, and health care professions. Other courses in this area are intended to improve or update the skills of individuals in the providing emergency and primary health care services. There are no degree patterns or transfer majors in this area.

Health Sciences Courses

HSCI 2 EMERGENCY MEDICAL TECHNICIAN 1
Units: 5
Prerequisite: Current CPR certification, either Am. Heart Assn.’s Healthcare Provider course or Am. Red Cross CPR/AED for the Professional Rescuer; proof of a negative Tuberculin (TB) test within the past year and vaccination for measles, mumps, and rubella
Hours: 128 (80 lecture, 38 laboratory, 10 field clinical laboratory) Theory and skills for emergency care of pre-hospital patients. Covers legal and moral aspects, initial assessment, patient stabilization, proper use of equipment, communicable diseases and medical and trauma emergencies. Ten hours of clinical experience required. Successful completion of written and skills test required for eligibility to take the National Registry of EMT examination, a prerequisite for CA EMT certification. (not transferable)

HSCI 3 MEDICAL TERMINOLOGY
Units: 3
Hours: 54 lecture
Basic structure of medical words, including prefixes, suffixes, word roots, combining forms and plurals. Pronunciation, spelling, and definitions of medical terms, and an understanding of human anatomy using a body system approach to selected structures, functions, diseases, procedures, and diagnostic tests. (CSU)

HSCI 7 EMERGENCY CARE/FIRST RESPONDER
Units: 3
Hours: 54 lecture
Core knowledge and skills for individuals to provide emergency medical care with a limited amount of equipment. Emphasizes patient assessment and care procedures at the First Responder level. Meets National Curriculum Standards for training First Responders. Certificates issued upon completion with grade of “C” or better. (not transferable)

HSCI 20 FIRST AID FOR PUBLIC SAFETY PERSONNEL
Units: 1
Hours: 34 (22 lecture, 12 laboratory) Basic emergency care, emphasizing patient assessment, shock, soft tissue and musculoskeletal injuries, medical emergencies, childbirth, airway management, immobilization techniques, CPR procedures, communicable disease awareness, and sudden infant death syndrome. Meets California training standards for public safety personnel. (not transferable)

HSCI 50 INTRODUCTION TO PARAMEDIC TRAINING
Units: 3.5
Prerequisite: Completion of HSCI 2 or equivalent
Hours: 80 (60 lecture, 20 laboratory) Introductory course for students considering a paramedic program. Designed to assist students in evaluating their educational preparedness for studying paramedic curriculum while preparing them for success within a program. Overview of practices, procedures, protocols, and skills applied at the paramedic level of prehospital care. Includes licensing requirements, basic anatomy, physiology, patient assessment, basic drug pharmacology, cardiac electrophysiology, EKGs, intravenous therapy and advanced airway management. No certifications provided. (not transferable)

HSCI 600 EMERGENCY MEDICAL TECHNICIAN CONTINUING EDUCATION
Units: 1
Prerequisite: Emergency Medical Technician Certification
Hours: 24 (16 lecture, 8 laboratory) New and updated emergency care methods. Reinforcement of basic knowledge and skills encountered in the pre-hospital setting, including use of an external automated defibrillator. In compliance with California’s continuing education requirements for EMT recertification. Skills competency verification required. May be repeated for credit to meet legally mandated requirements. (pass/no pass grading) (not degree applicable)
History

LIBERAL ARTS
DEAN: Debra Sutphen
ASSOCIATE DEAN: Rebecca Bocchicchio
DIVISION OFFICE: W 107
FACULTY: D. DeFoe, B. Fairchild, J. Hester, D. Kuchera, S. Lamphere, L. Medeiros, A. Myers
liaison Counselors: M. Moon, Reyes Ortega

History is an academic discipline concerned with the manner by which people and institutions of all kinds have become transformed with the passage of time. In the study of history it is more important to learn the skills of finding, interpreting and relating historical information than it is simply to memorize historical data. Through the study of history, students can acquire the techniques of gathering and applying information to gain a perspective on the human condition.

TRANSFER MAJOR REQUIREMENTS in History are available in the Counseling Center. In all cases, students should consult with a counselor for specific transfer requirements. Positions for which four-year graduates in History are qualified include teaching, state and national park historian, historical archaeologist, and government positions. There are broad areas in the job market where a liberal arts background is needed.

HISTORY
A.A. DEGREE
The History major is awarded for study in United States, western civilization, or world history. The program strengthens historical inquiry through critical thinking and appreciation of cultural diversity. Students will identify and analyze historical sources, compare evidence, and develop interpretations while gaining understanding of the past. Successful completion of the program will prepare students for transfer to four-year colleges and universities. The major is designed to meet the lower division requirements for History majors at four-year institutions. In all cases, students should consult with counselors to select courses to meet general education and transfer major requirements. Students must fulfill program requirements and all associate degree requirements for the A.A. degree; see pages 42-43.

REQUIRED COURSES
6 UNITS FROM THE FOLLOWING:
HIST 17A History of the United States . . . . . . . . . . . . . . . . . . 3
HIST 17B History of the United States . . . . . . . . . . . . . . . . . . 3
HIST 20 California History . . . . . . . . . . . . . . . . . . . . . . . . . 3
HIST 21 Contemporary United States History . . . . . . . . . . . . . 3
HIST 22 American Military History . . . . . . . . . . . . . . . . . . . 3
HIST 23 Chicano/Mexican American History . . . . . . . . . . . . . 3
HIST 27 Women in American History . . . . . . . . . . . . . . . . . . 3

PLUS 6 UNITS FROM THE FOLLOWING:
HIST 4A Western Civilization . . . . . . . . . . . . . . . . . . . . . . . 3
HIST 4B Western Civilization . . . . . . . . . . . . . . . . . . . . . . . 3
HIST 19A History of Traditional East Asia . . . . . . . . . . . . . . . 3
HIST 19B History of Modern East Asia . . . . . . . . . . . . . . . . . 3
HIST 24 Russian History—10th Century to Present . . . . . . . . . . 3
HIST 35 Historical Reasoning . . . . . . . . . . . . . . . . . . . . . . . 3
HIST 50 World History to 1450 . . . . . . . . . . . . . . . . . . . . . . 3
HIST 51 World History since 1450 . . . . . . . . . . . . . . . . . . . . 3

PLUS 6 ADDITIONAL UNITS SELECTED FROM ALL OTHER COURSES LISTED ABOVE:

TOTAL UNITS REQUIRED: 18

History Courses

HIST 4A WESTERN CIVILIZATION
Units: 3
Advisory: Eligibility for ENGL 1A or ESL 40W
Hours: 54 lecture
Study of Western Europe, from its beginning to 1715, inter-relating political and social events with art, literature, and philosophy; covering Greece, Rome, Medieval, and early Modern Europe. Reading literature used as historical documents. Testing emphasizes writing. (CSU, UC)

HIST 4B WESTERN CIVILIZATION
Units: 3
Advisory: Eligibility for ENGL 1A or ESL 40W
Hours: 54 lecture
Study of Western Europe, from 1715 to present, covering the Ancient Regime, the Age of Democratic Revolutions and industrialization, and the century of dictatorship and total war. Strong emphasis on cultural, as well as social and political events. Reading of literature used as historical documents. Testing emphasizes writing. (CSU, UC)

HIST 17A HISTORY OF THE UNITED STATES
Units: 3
Prerequisite: Eligibility for ENGL 50 or ENGL N
Advisory: Eligibility for ENGL 1A or ESL 40W
Hours: 54 lecture
History of the United States from its origins to 1877. Emphasis on evolution of colonial societies, the American Revolution and the establishment of the Republic, Constitution and constitutional developments, and emergence of a national political tradition; ethnic and racial pluralism of settlement, growth and development; the market revolution and emergence of democracy; institution of slavery; territorial expansion, and events, issues, and developments culminating in the Civil War and the Reconstruction of the South. (CSU, UC)
HIST 17B HISTORY OF THE UNITED STATES
Units: 3
Prerequisite: Eligibility for ENGL 50 or ENGL N
Advisory: Eligibility for ENGL 1A or ESL 40W
Hours: 54 lecture
History of the United States from 1865 to the present. Emphasis on national political, economic, intellectual, and social trends and their impact on constitutional law; industrialization and urbanization; evolution of American ethnic, cultural and racial pluralism; and role of United States in world affairs. Also addresses California state and local issues in a broad, national context. (CSU, UC)

HIST 19A HISTORY OF TRADITIONAL EAST ASIA
Units: 3
Advisory: Eligibility for ENGL 1A or ESL 40W
Hours: 54 lecture
Survey of the major cultural, social, and political traditions and institutions of India, China, Japan, and Southeast Asia from the earliest civilizations to the 17th century. Includes imperial and dynastic developments, artistic and philosophical expression, economies and commerce, and impact of pan-Asian Buddhist and Muslim movements. (CSU, UC)

HIST 19B HISTORY OF MODERN EAST ASIA
Units: 3
Advisory: Eligibility for ENGL 1A or ESL 40W
Hours: 54 lecture
East Asia from the 17th century to present. Includes Asian societies on the eve of modernization, regional responses to Western imperialism, modern nationalist movements, Asia during the two world wars, and role of Asia in modern global economics and diplomacy. Comparisons of China, Japan, and Indian subcontinent; reference to Korea and Southeast Asia. (CSU, UC)

HIST 20 CALIFORNIA HISTORY
Units: 3
Advisory: Eligibility for ENGL 1A or ESL 40W
Hours: 54 lecture
Comprehensive survey of the history of California from pre-historic to contemporary times. Emphasis on the environment and the three main eras of human settlement: California Indian, Spanish and Mexican, and American periods. Study of diverse Indian groups; various movements of people over time and different perspectives on government, law, economics, and culture. Local, state, regional, national, Pacific Rim, and global issues. (CSU, UC)

HIST 21 CONTEMPORARY UNITED STATES HISTORY
Units: 3
Advisory: Eligibility for ENGL 1A or ESL 40W
Hours: 54 lecture
Study of American social, political and economic history since 1945; course emphasis on the impact of the Cold War and the struggles of civil rights and social justice that have shaped contemporary America. Also examined: the effects of globalization, technology, environmental challenges and religion in the post-war era. (CSU—with unit limitation, UC)

HIST 22 AMERICAN MILITARY HISTORY
Units: 3
Advisory: Eligibility for ENGL 1A or ESL 40W
Hours: 54 lecture

HIST 23 CHICANO/MEXICAN AMERICAN HISTORY
Units: 3
Advisory: Eligibility for ENGL 1A or ESL 40W
Hours: 54 lecture
Comprehensive survey of the history of Mexican Americans, from pre-Cortesian/Columbian times to the present. Emphasis on experiences and contributions of Chicanos in the United States regarding culture, economy, government and politics. (CSU, UC)

HIST 24 RUSSIAN HISTORY—10TH CENTURY TO PRESENT
Units: 3
Advisory: Eligibility for ENGL 1A or ESL 40W
Hours: 54 lecture
Survey of Russian history from the 10th century to the present. Includes the Slavic, Kievan, Muscovite, and Imperial eras through the Revolutions of 1917, the rise and fall of the Soviet Union, and the formation of the post-Soviet Russian Republic. Emphasis on the major political, social, economic, and cultural trends that define Russian and Soviet civilizations. (CSU, UC)

HIST 27 WOMEN IN AMERICAN HISTORY
Units: 3
Prerequisite: Eligibility for ENGL 50 or ENGL N
Advisory: Eligibility for ENGL 1A or ESL 40W
Hours: 54 lecture
Survey of women's roles in American history from its pre-colonial origins to the present. Emphasis on women's experiences and contributions to historical developments regarding social, economic, and cultural life, government, politics, personal issues, the U.S. Constitution, race and racism, ethnicity, and gender. (CSU, UC)
HIST 28 INDEPENDENT STUDY
Units: 1-3
Designed for students interested in furthering their knowledge at an independent study level in an area where no specific curriculum offering is currently available. Independent study might include, but is not limited to, research papers, special subject area projects, and research projects. May be taken four times for credit. See Independent Study page in catalog. (CSU, UC—with unit limitation)

HIST 35 HISTORICAL REASONING
Units: 3
Advisory: Eligibility for ENGL 1A or ESL 40W
Hours: 54 lecture
Development and assessment of critical thinking as it is used in the discipline of History. Logical reasoning and various methodologies applied to the study of historical problems and contemporary issues. Emphasis on assigned writing projects, oral history projects, and classroom discussions to develop critical thinking skills. (CSU, UC)

HIST 50 WORLD HISTORY TO 1450
Units: 3
Advisory: Eligibility for ENGL 1A or ESL 40W
Hours: 54 lecture
Survey to 1450 of the political, economic, social, and religious/philosophical characteristics of the major world civilizations—the Mediterranean Basin, Europe, East Asia, India, and Africa—and the interactions among these civilizations. (CSU, UC)

HIST 51 WORLD HISTORY SINCE 1450
Units: 3
Advisory: Eligibility for ENGL 1A or ESL 40W
Hours: 54 lecture
Survey from 1450 of the political, economic, social, and cultural developments of world civilizations with a special emphasis on exploring interactions among these civilizations. (CSU, UC)

HIST 95 INTERNSHIP IN HISTORY
Units: 0.5-4
Designed for advanced students to work in an area related to their educational or occupational goal. Provides new on-the-job technical training under the direction of a worksite supervisor, allowing students to expand knowledge and skills in the chosen field. Mandatory orientation session and faculty approval to determine eligibility. Students may earn up to a total of 16 units in internship courses (any course numbered 95 and PDEV 94). (CSU—with unit limitation)

HIST 300 SELECTED TOPICS IN HISTORY
Units: 0.5-4
Courses of study will cover topics relevant to the discipline. Topics will vary. Course content and unit credit to be determined by the division. May be offered as seminar, lecture, or lecture/laboratory classes. Students may repeat “300” courses within a discipline only when a topic is different from previously completed course. See Selected Topics page in catalog. (CSU, UC—with unit limitation)

Human Development and Family

BUSINESS, APPLIED ACADEMICS, & PHYSICAL EDUCATION
DEAN: Luis Sanchez
ASSOCIATE DEAN: Darlene Jackson
AREA OFFICE: B 4A
FACULTY: D. Eastman, L. Kearney-Capaul, J. Quinlan, C. Silvia
LIAISON COUNSELORS: E. Dickson, T. Maddux

The Human Development and Family degree program provides students with the necessary education for work in child development programs at various levels; teacher assistant, associate teacher, teacher, master teacher, site supervisor, and director. It also includes instruction in infant care, preschool, school-age care, children’s advocacy and child care resource and referral agencies. Students develop skills important to employment as instructional assistants in kindergarten and primary grade classrooms in public schools. Course work prepares students who wish to go into family and social services, as well as work with the elderly.

Specific courses in the human development area afford students the opportunity to enhance their quality of life and to meet general education requirements through courses in lifespan development, marriage, management, family, parenting, and diversity.

The California Commission on Teacher Credentialing grants permits to those preparing to teach children in early childhood education programs and in after-school child care programs. These permits, known as Child Development Permits, authorize service in state funded child care and development programs. The course work provided by the Sierra College Human Development and Family Department is approved by the California Commission on Teacher Credentialing as meeting the requirements for the California Child Development Permits. Specific Permit requirements are listed after the information on the Early Childhood Skills Certificate/Certificate of Achievement/Associate Degrees offered at Sierra College.

Students should be aware of the different levels of the Permit and are recommended to counsel with a full time Human Development & Family faculty member to discuss how to obtain a Permit at one of the various levels through their course
work. Upon completion of the A.A./A.S. degree, a student will possess the course work required to work as a teacher in private and public preschool, as well as child care and development programs.

**EARLY CHILDHOOD EDUCATION ASSOCIATE TEACHER SKILLS CERTIFICATE**

Upon completion of the following courses with grades of “C” or better, a student will qualify for an Associate Teacher Skills Certificate. Along with this skills certificate and documentation of the appropriate field experience, it is recommended that students confer with an advisor on how to obtain a Permit through the Commission on Teacher Credentialing. This level of course work authorizes the student to work as a teacher in both state funded child care programs as well as in Title 22, State Department of Health and Human Services programs.

**REQUIRED COURSES**

<table>
<thead>
<tr>
<th>COURSE</th>
<th>UNITS</th>
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</thead>
<tbody>
<tr>
<td>HDEV 1 Human Development OR</td>
<td>3</td>
</tr>
<tr>
<td>HDEV 9 Child and Adolescent Development</td>
<td>3</td>
</tr>
<tr>
<td>HDEV 2 Principles and Practices of Early Childhood Education</td>
<td>3</td>
</tr>
<tr>
<td>HDEV 4 Child, Family, and Community</td>
<td>3</td>
</tr>
<tr>
<td>HDEV 5 Introduction to Curriculum</td>
<td>3</td>
</tr>
</tbody>
</table>

**TOTAL UNITS REQUIRED: 12**

*Grades of “C” or better must be earned in all required courses.

**CHILD DEVELOPMENT PERMIT—ASSOCIATE TEACHER**

A Child Development Associate Teacher Permit authorizes the holder to provide services in the care, development and instruction of children in a child care and development program and supervise an Assistant Permit holder and an Aide. The student must apply to the Commission on Teacher Credentialing for a Child Development Permit at the Associate Teacher level after completing the following 12 units and appropriate work experience:

<table>
<thead>
<tr>
<th>COURSE</th>
<th>UNITS</th>
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</thead>
<tbody>
<tr>
<td>HDEV 1 Human Development OR</td>
<td>3</td>
</tr>
<tr>
<td>HDEV 9 Child and Adolescent Development</td>
<td>3</td>
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<td>HDEV 2 Principles and Practices of Early Childhood Education</td>
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<tr>
<td>HDEV 4 Child, Family, and Community</td>
<td>3</td>
</tr>
<tr>
<td>HDEV 5 Introduction to Curriculum</td>
<td>3</td>
</tr>
</tbody>
</table>

**Work experience of 50 days of 3 plus hours per day within 2 years in a licensed child care facility**

*Grades of “C” or better must be earned in all required courses.

**EARLY CHILDHOOD EDUCATION TEACHER CERTIFICATE**

(Formerly Child Development Teacher)

This certificate authorizes the holder to provide service in the care, development, and instruction of children in a Title 22 Program. Students may be eligible for application to the Commission on Teacher Credentialing for a Child Development Permit at the Teacher Level.

**REQUIRED COURSES**

<table>
<thead>
<tr>
<th>COURSE</th>
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</thead>
<tbody>
<tr>
<td>HDEV 1 Human Development OR</td>
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<td>HDEV 9 Child and Adolescent Development</td>
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<td>HDEV 2 Principles and Practices of Early Childhood Education</td>
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<td>3</td>
</tr>
<tr>
<td>HDEV 5 Introduction to Curriculum</td>
<td>3</td>
</tr>
</tbody>
</table>

**TOTAL UNITS REQUIRED: 41.5**

*Grades of “C” or better must be earned in all required courses.

**PLUS 16 ADDITIONAL GENERAL EDUCATION UNITS, INCLUDING AT LEAST ONE COURSE IN EACH OF THE FOLLOWING AREAS:**

<table>
<thead>
<tr>
<th>Area</th>
<th>UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Humanities</td>
<td>3</td>
</tr>
<tr>
<td>Social/Behavioral Sciences</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics and/or Natural Sciences</td>
<td>3</td>
</tr>
<tr>
<td>English</td>
<td>16</td>
</tr>
</tbody>
</table>

*(See pages 42-43)*

**CHILD DEVELOPMENT PERMIT—TEACHER**

A Child Development Teacher Permit authorizes the holder to provide service in the care, development and instruction of children in a child care and development program; and supervise an Aide, Assistant Permit and Associate Teacher permit holder. The student must apply to the Commission on Teacher Credentialing for a Child Development Permit at the Teacher level after completing the following 40 units and appropriate work experience:

<table>
<thead>
<tr>
<th>UNIT</th>
<th>CREDITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 core units</td>
<td></td>
</tr>
<tr>
<td>11 HDEV/ECE elective units</td>
<td></td>
</tr>
<tr>
<td>16 General Education units</td>
<td></td>
</tr>
</tbody>
</table>

Work experience equaling 175 days of 3 plus hours per day within a 4-year period in a licensed child care facility

16 GENERAL EDUCATION UNITS MUST BE IN THE AREAS OF:

- English/Language Arts
- Math or Science
- Social Sciences
- Humanities and/or Fine Arts

*Grades of “C” or better must be earned in all required courses.
EARLY CHILDHOOD EDUCATION
A.A. OR A.S. DEGREE
(FORMERLY CHILD DEVELOPMENT TEACHER)
Students must fulfill major requirements and all associate degree requirements for the A.A./A.S. degree; see pages 42-43.

REQUIRED COURSES

<table>
<thead>
<tr>
<th>Course</th>
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<tr>
<td>HDEV 1 Human Development OR</td>
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<td>3</td>
</tr>
<tr>
<td>HDEV 3 Observation, Documentation and Assessment In ECE</td>
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</tr>
<tr>
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<td>3</td>
</tr>
<tr>
<td>HDEV 5 Introduction to Curriculum</td>
<td>3</td>
</tr>
<tr>
<td>HDEV 7 Health, Safety, and Nutrition</td>
<td>3</td>
</tr>
<tr>
<td>HDEV 10 Practicum/Field Experience in Early Childhood Education</td>
<td>4.5</td>
</tr>
<tr>
<td>HDEV 25 Culture and Diversity in Early Childhood Education</td>
<td>3</td>
</tr>
</tbody>
</table>

**TOTAL UNITS REQUIRED: 25.5**

*Grades of “C” or better must be earned in all required courses.

EARLY CHILDHOOD EDUCATION—MASTER TEACHER
A.A. OR A.S. DEGREE
(FORMERLY CHILD DEVELOPMENT MASTER TEACHER)
Students must fulfill program requirements and all associate degree requirements for the A.A./A.S. degree; see pages 42-43.

REQUIRED COURSES

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>HDEV 1 Human Development OR</td>
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<tr>
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<tr>
<td>HDEV 3 Observation, Documentation and Assessment In ECE</td>
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<tr>
<td>HDEV 25 Culture and Diversity in Early Childhood Education</td>
<td>3</td>
</tr>
<tr>
<td>HDEV 38 Adult Supervision: Mentoring in ECE Settings</td>
<td>2</td>
</tr>
</tbody>
</table>

PLUS 6 UNITS IN AN AREA OF SPECIALIZATION FROM:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>HDEV 11 Infant and Toddler Development and Caregiving AND HDEV 95 Internship in Human Development and Family</td>
<td>6</td>
</tr>
<tr>
<td>HDEV 13 School Age Child AND</td>
<td>6</td>
</tr>
<tr>
<td>HDEV 14 Programs for School Age Children</td>
<td>6</td>
</tr>
<tr>
<td>HDEV 16/MUS 20 Music for Children AND</td>
<td>6</td>
</tr>
<tr>
<td>HDEV 43 Music and Movement for Young Children OR MUS 10 Music Fundamentals</td>
<td>6</td>
</tr>
<tr>
<td>HDEV 19 Exceptional Development AND DFST 1 American Sign Language</td>
<td>7</td>
</tr>
<tr>
<td>HDEV 21/PSYC 10 Psychology of Marriage AND HDEV 22/SOC 4 The Family OR HDEV 23 Dynamics of Parenthood</td>
<td>6</td>
</tr>
<tr>
<td>HDEV 29 Storytelling and Puppetry AND HDEV 44/ENGL 44 Introduction to Children’s Literature OR HDEV 45/ENGL 45 Introduction to Adolescent Literature OR HDEV 46 Language and Literacy</td>
<td>6</td>
</tr>
<tr>
<td>OR HDEV 30 Creative Process in Children AND ART 6A Design OR ART 10 Art Appreciation</td>
<td>6</td>
</tr>
</tbody>
</table>

*Grades of “C” or better must be earned in all required courses.
EARLY CHILDHOOD EDUCATION—
SITE SUPERVISOR
A.A. OR A.S. DEGREE

(FORMERLY CHILD DEVELOPMENT-SITE SUPERVISOR)
Students must fulfill major requirements and all associate degree requirements for the A.A./A.S. degree; see pages 42-43.

REQUIRED COURSES

<table>
<thead>
<tr>
<th>Course</th>
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<td>HDEV 25 Culture and Diversity in Early Childhood Education</td>
<td>3</td>
</tr>
<tr>
<td>HDEV 38 Adult Supervision: Mentoring in ECE Settings</td>
<td>2</td>
</tr>
<tr>
<td>HDEV 40 Administration and Supervision of Early Childhood Programs</td>
<td>3</td>
</tr>
<tr>
<td>HDEV 41A Early Childhood Programs: Financial and Legal Issues</td>
<td>1</td>
</tr>
<tr>
<td>HDEV 41B Early Childhood Programs: Communication &amp; Personnel Management</td>
<td>1</td>
</tr>
<tr>
<td>HDEV 41C Early Childhood Programs: Staff Development &amp; Program Evaluation</td>
<td>1</td>
</tr>
</tbody>
</table>

**TOTAL UNITS REQUIRED: 33.5**

*Grades of “C” or better must be earned in all required courses.

CHIL DEVELOPMENT PERMIT—SITE SUPERVISOR

A Child Development Site Supervisor supervises a child care and development program operating at a single site; provides service in the care, development and instruction of children in a child care and development program, and serves as a coordinator of curriculum and development. The student must apply to the Commission on Teacher Credentialing for a Child Development Permit at the Site Supervisor level, after completing requirements for an AA/AS degree, including the following courses and appropriate work experience:

- 12 core units
- 3 HDEV/ECE elective units
- 16 GE units
- 2 Adult Supervision units (HDEV 38)
- 6 Administration units (HDEV 40 & 41)
- Work experience of 350 days of 3 plus hours per day within 4 years, including at least 100 days of supervising adults in a licensed child care facility
- Grades of “C” or better must be earned in all required courses.

Human Development and Family Courses

**HDEV 1 HUMAN DEVELOPMENT**

Units: 3  
Hours: 54 lecture  
Study of the physical, cognitive, psychosocial and emotional changes in development through the life span. Focuses on the practical application of developmental principles and patterns of growth from conception through late adulthood, including death and bereavement processes. Designed as a foundation course for careers in social service, psychological, health and medical fields. (CSU, UC—with unit limitation)

**HDEV 2 PRINCIPLES AND PRACTICES OF EARLY CHILDHOOD EDUCATION**

Units: 3  
Hours: 54 lecture  
Examination of the underlying theoretical principles of developmentally appropriate practice applied to programs, environments, key role of relationships, constructive adult-child interactions, and teaching strategies in supporting physical, cognitive, social, and creative development in children. Emphasis on the preschool years, developmentally appropriate practices, and professional development. Five hours of observation of programs serving young children required. (CSU)

**HDEV 3 OBSERVATION, DOCUMENTATION AND ASSESSMENT IN ECE**

Units: 3  
Prerequisite: Completion of HDEV 1 or 9 with grade of “C” or better; completion of HDEV 2 with grade of “C” or better  
Hours: 54 lecture  
Focus on the appropriate use of assessment and observation strategies to document development, growth, play and learning to join with families and professionals in promoting children’s success. Recording strategies, rating systems, portfolios, and multiple assessment tools are explored. Direct child observations required. (CSU)

**HDEV 4 CHILD, FAMILY, AND COMMUNITY**

Units: 3  
Hours: 54 lecture  
Examination of the underlying theoretical principles of developmentally appropriate practice applied to programs, environments, key role of relationships, constructive adult-child interactions, and teaching strategies in supporting physical, cognitive, social, and creative development in children. Emphasis on the preschool years, developmentally appropriate practices, and professional development. Five hours of observation of programs serving young children required. (CSU, UC)
HDEV 5 INTRODUCTION TO CURRICULUM
Units: 3
Prerequisite: Completion of HDEV 1 or 9 with grade of "C" or better; completion of HDEV 2 with grade of "C" or better
Hours: 54 lecture
Examines knowledge and skills related to providing appropriate curriculum and environments for young children, supporting development using observation and assessment strategies, and creating play-based learning environments. Content areas include: language/literacy, social/emotional learning, art/creativity, math/science. (CSU)

HDEV 7 HEALTH, SAFETY, AND NUTRITION
Formerly known as HDEV 6 and 8
Units: 3
Hours: 54 lecture
Introduction to laws, regulations, standards, policies and procedures, and early childhood curriculum related to child health, safety, and nutrition. Key components that ensure physical and mental health and safety for children and staff will be identified along with the importance of collaboration with families and health professionals. Focus on integrating concepts into everyday planning and program development in child care settings and family child care homes. (CSU)

HDEV 9 CHILD AND ADOLESCENT DEVELOPMENT
Units: 3
Hours: 54 lecture
Study of physical, psychosocial, and cognitive/language developmental milestones for children, both typical and atypical, from conception through adolescence. Emphasis on interactions between maturational processes and environmental factors that affect growth and development. (CSU, UC—with unit limitation)

HDEV 10 PRACTICUM/FIELD EXPERIENCE IN EARLY CHILDHOOD EDUCATION
Units: 4.5
Prerequisite: Completion of HDEV 3 and 5 with grades of "C" or better
Advisory: Completion of HDEV 25 with grade of "C" or better
Hours: 144 (54 lecture, 90 laboratory)
Planning and implementation of developmentally appropriate and intentional early childhood teaching competencies under guided supervision. Students will utilize practical classroom experiences to make connections between theory and practice, develop professional behaviors, and build a comprehensive understanding of children. Child centered and interest based, play-oriented approaches to teaching, learning, and assessment; and knowledge of developmentally appropriate curriculum in content areas will be emphasized as student teachers design, implement and evaluate experiences that promote positive development and learning for all young children. Ninety supervised teaching hours outside of the classroom are required. (CSU)

HDEV 11 INFANT AND TODDLER DEVELOPMENT AND CAREGIVING
Units: 3
Hours: 54 lecture
Infant and toddler development and caregiving practices from birth to 36 months, including physical, cognitive and psychosocial development. Examines influences on infant development, including families and child care practices. Emphasizes relationships, environments and curriculum to meet group and individual needs. Explores contemporary research as it applies to programs for infants and toddlers. Recommended for Child Development, education and health career majors. (CSU)

HDEV 12 INFANT CAREGIVING
Units: 3
Prerequisite: Completion of HDEV 11
Hours: 90 (36 lecture, 54 laboratory)
Principles and practices of caring for infants and toddlers, including methods of promoting emotional, social, cognitive, and physical development. Includes information to assess development of children and development appropriate relationships, environments, and curriculum to meet group and individual needs. (CSU)

HDEV 13 SCHOOL AGE CHILD
Units: 3
Advisory: Completion of HDEV 1
Hours: 54 lecture
Study of the child from 6-12 years of age, including physical, cognitive, social, and moral development. Fundamentals of planning educational and recreational programs with an emphasis on developmentally appropriate practice. (CSU)

HDEV 14 PROGRAMS FOR SCHOOL AGE CHILDREN
Units: 3
Prerequisite: Completion of HDEV 13
Hours: 90 (36 lecture, 54 laboratory)
Study of principles and standards for school-age child development programs. Emphasis on implementation of recommended practices in supervised laboratory settings. Includes planning and presenting developmentally appropriate activities in all curriculum areas. Meets specialization requirement, with HDEV 13, of Master Teacher Child Development Permit. (CSU)

HDEV 16 MUSIC FOR CHILDREN
Also known as MUS 20
Units: 3
Hours: 54 lecture
Principles of teaching and using music in preschool, elementary school, and recreational programs. Problems, methods, and materials in singing, rhythms, creative music, reading, and listening. Recommended for those who use music with groups of children. (CSU)
HDEV 19 EXCEPTIONAL DEVELOPMENT: INCLUSION OF SPECIAL NEEDS CHILDREN
Units: 3
Advisory: Completion of HDEV 1
Hours: 54 lecture
Introduction to the study of children from birth to eight years of age with special needs resulting from atypical physical/motor, cognitive, language/literacy, and social/emotional development. Covers causes and accommodation of the major types of exceptional development, including giftedness, in schools, childcare settings, homes, public and private sectors. Designed for parents, teachers, aides in infant/toddler programs, preschools and K-2 elementary school levels, and other interested students. Emphasis on communication and understanding behavioral dynamics while forming respectful relationships between families, caregivers, and specialists. Approved for continuing education units by the Board of Registered Nursing. (CSU)

HDEV 21 PSYCHOLOGY OF MARRIAGE
Also known as PSYC 10
Units: 3
Hours: 54 lecture
Study of the meaning and function of intimacy, marriage, and family in today’s American society. Consideration given to nature of commitments, sexuality, alternative relationships, communication, conflict resolution, economics, parenting, crises, and marital separation, through the life span, and encompassing a diverse range of individuals. Recommended for majors in Human Development and Family and for those in human service careers. (CSU, UC)

HDEV 22 THE FAMILY
Also known as SOC 4
Units: 3
Advisory: Completion of SOC 1 recommended
Hours: 54 lecture
A sociological approach to the analysis of the family as a social institution. Of particular interest will be the changing structure of family, gender roles, dating, marriage, intimacy, relationships, and parenting. (CSU, UC)

HDEV 23 DYNAMICS OF PARENTHOOD
Formerly known as HDEV 23ABCD
Units: 3
Advisory: Completion of HDEV 1 with grade of “C” or better
Hours: 54 lecture
A survey of historical and contemporary attitudes toward parenting. Review of research on child-rearing practices and parent-child relationships. Exploration of current approaches for effective interaction and communication of family members. Emphasis on the influence of personality, developmental stage, family structures, ethnic and cultural factors. (CSU)

HDEV 25 CULTURE AND DIVERSITY IN EARLY CHILDHOOD EDUCATION
Units: 3
Hours: 54 lecture
Study of human diversity as it relates to young children, families, programs, classrooms and teaching. Examination of the development of social identities in diverse societies including oppression and privilege. Explores the meaning, necessity, and benefits of anti-bias education and presents various strategies emphasizing cultural and linguistic approaches supporting all children in becoming competent members of a diverse society. Includes self-examination and reflection on issues related to social identity, stereotypes and bias, social and educational access, media and schooling. (CSU)

HDEV 28 INDEPENDENT STUDY
Units: 1-3
Designed for students interested in furthering their knowledge at an independent study level in an area where no specific curriculum offering is currently available. Independent study problems might include, but are not limited to, research papers, special construction projects, and research projects. May be taken four times for credit. See Independent Study page in catalog. (CSU)

HDEV 29 STORYTELLING AND PUPPETRY
Formerly known as HDEV 17 & 18
Units: 3
Hours: 54 lecture
Storytelling and puppetry explored as a means of enhancing oral language, listening skills and creativity in young children. Examines stories from many cultures. Emphasizes the art of telling stories. Focuses on the methods, materials, and experiences needed to use storytelling and puppetry effectively with children. Hands-on involvement with practical application for teachers, teacher aides, librarians, therapists, recreation leaders, church and youth group leaders, artists, dramatists, and parents. (CSU)

HDEV 30 CREATIVE PROCESS IN CHILDREN
Units: 3
Hours: 54 lecture
Introduction to the aesthetic development and creative expression of children. Exploration of art methods, materials, creative process, and developmental stages. Enables students to implement age-appropriate activities for early childhood education and school-age students. (CSU)
HDEV 38 ADULT SUPERVISION: MENTORING IN ECE SETTINGS
Units: 2
Prerequisite: Completion of HDEV 1 or 9; HDEV 2; and HDEV 3
Hours: 36 lecture
Principles and methods of supervising students, teachers, and other adults in early childhood education settings. Emphasis on the role of experienced teachers who function as leaders, supervisors, and mentors. Meets requirements of Master Teacher Level of Child Development Permits. (CSU)

HDEV 40 ADMINISTRATION AND SUPERVISION OF EARLY CHILDHOOD PROGRAMS
Units: 3
Prerequisite: Completion of HDEV 1, HDEV 2, and HDEV 5, or previous experience as a director of an early childhood education program, or equivalent
Hours: 54 lecture
Basic aspects of understanding and directing an early childhood education program. Emphasis on implementing state licensing requirements for child care centers. Consideration given to planning the facilities and program, health and safety requirements, policy making, and staff/parent communication. (CSU)

HDEV 41A EARLY CHILDHOOD PROGRAMS: FINANCIAL AND LEGAL ISSUES
Units: 1
Prerequisite: Completion of HDEV 40 or previous experience as a director of an early childhood education program, or equivalent
Hours: 18 lecture
Legal and financial issues related to establishment and operation of early childhood education programs. Emphasis on compliance with relevant laws and regulations, including insurance, licensure, confidentiality, and child abuse. Ways to develop sound fiscal policies that address affordability of quality child care, equitable compensation benefits for staff, and tax provisions, relative to the operation of different types of early childhood programs. (CSU)

HDEV 41B EARLY CHILDHOOD PROGRAMS: COMMUNICATION AND PERSONNEL MANAGEMENT
Units: 1
Prerequisite: Completion of HDEV 40, or previous experience as a director of a childhood education program, or equivalent
Hours: 18 lecture
Advanced level of HDEV 40 with emphasis on communication strategies and staff development. Topics to include: training, supervision and evaluation of personnel, conflict management techniques, effective communication styles and networking with others in the community to promote participation and support between professionals in the field. (CSU)

HDEV 41C EARLY CHILDHOOD PROGRAMS: STAFF DEVELOPMENT & PROGRAM EVALUATION
Units: 1
Prerequisite: Completion of HDEV 40, or previous experience as a director of an early childhood education program, or equivalent
Hours: 18 lecture
Advanced level of HDEV 40 with emphasis on staff career development. Includes goal setting, stress management, and accreditation. (CSU)

HDEV 43 MUSIC AND MOVEMENT FOR YOUNG CHILDREN
Units: 3
Hours: 54 lecture
Theoretical perspectives and practical applications of the use of music and movement with children from infancy to age eight in group settings. Emphasis on exploration of music and movement as ways to involve young children with cultural diversity and traditions, creative expression, promotion of an understanding of the connection to healthy living and physical activity, and stimulation of brain development. Methods and materials used in singing, rhythms, creative music, reading and listening, development of music and movement lesson plans, and creation of inexpensive musical instruments. (CSU)

HDEV 44 INTRODUCTION TO CHILDREN’S LITERATURE
Also known as ENGL 44
Units: 3
Prerequisite: Eligibility for ENGL 1A or ESL 40W
Hours: 54 lecture
Examination of classic and contemporary children’s literature, including criteria for selection, uses in child development and education, and practices in presentation and analysis. Designed for parents, prospective teachers, aides, child development professionals and students interested in the field of literature for children ages 1-13. (CSU)

HDEV 45 INTRODUCTION TO ADOLESCENT LITERATURE
Also known as ENGL 45
Units: 3
Prerequisite: Eligibility for ENGL 1A or ESL 40W
Hours: 54 lecture
An examination of works which have earned merit as classics, written for young adults, including discussion of literary form, the criteria for selection, practice in presentation and analysis, and aesthetic appreciation in young readers. May include representative writers such as Shakespeare, Dickens, Twain, and Tolkien as well as contemporary, multiculturally diverse writers such as Salinger, Angelou, Tan, Walker, and Wright. (CSU)
HDEV 46 LANGUAGE AND LITERACY  
Units: 3  
Prerequisite: Completion of HDEV 2  
Advisory: Completion of HDEV 1  
Hours: 54 lecture  
Designed to support early childhood educators in the area of early language and literacy development. Focus on planning and implementing developmentally appropriate experiences that will enhance the quality and quantity of oral language, provide for a print-rich environment and assist children in their growing understanding of print. Encourages literacy learning in a meaningful context and provides strategies for working with families and diverse populations. (CSU)

HDEV 47 MATH AND SCIENCE IN EARLY CHILDHOOD EDUCATION  
Units: 3  
Prerequisite: Completion of HDEV 2  
Advisory: Completion of HDEV 1  
Hours: 54 lecture  
Designed to support early childhood educators of preschool-aged children. Exploration of fundamental math and science concepts and principles of selecting and implementing appropriate math and science activities in an integrated curriculum. Focus on specific strategies and techniques for working with preschool children and connecting their families to the preschool learning environment. (CSU)

HDEV 60 AGING IN A CHANGING SOCIETY  
Units: 3  
Hours: 54 lecture  
Introduction to the physical, cognitive, economic, social and psychological factors relating to the way people grow older, their changing roles in family and society, and the issues of contemporary aging in a diverse society. Discussion and exploration of career opportunities in the field of Gerontology. (CSU)

HDEV 61 NUTRITION THROUGHOUT THE LIFE CYCLE  
Also known as NUTF 13  
Units: 3  
Advisory: Completion of NUTF 10  
Hours: 54 lecture  
Examination of nutritional concerns, requirements, and metabolism during several stages of the life cycle, including pregnancy, lactation, infancy, childhood, adolescence and the elderly years. Analysis of cultural, environmental, physical, and economic factors affecting nutritional status. Study methods of assuring adequate nutrition through dietary selection and promotion of maternal, infant, geriatric health. (CSU)

HDEV 95 INTERNSHIP IN HUMAN DEVELOPMENT AND FAMILY  
Units: 0.5-4  
Designed for advanced students to work in an area related to their educational or occupational goal. Provides new on-the-job technical training under the direction of a worksite supervisor, allowing students to expand knowledge and skills in the chosen field. Mandatory orientation session and faculty approval to determine eligibility. Students may earn up to a total of 16 units in internship courses (any course numbered 95 and PDEV 94). (CSU—with unit limitation)

HDEV 300 SELECTED TOPICS IN HUMAN DEVELOPMENT  
Units: 0.5-4  
Courses of study will cover topics relevant to the discipline. Topics will vary. Course content and unit credit to be determined by the division. May be offered as seminar, lecture, or lecture/laboratory classes. Students may repeat “300” courses within a discipline only when a topic is different from previously completed course. See Selected Topics page in catalog. (CSU)

HDEV 303 PARENTING THE INFANT AND TODDLER  
Units: 1  
Hours: 18 lecture  
Review of research on child-rearing practices and parent-child relationships. Exploration of current approaches for effective interaction and communication of family members. Emphasis on the influence of temperament, developmental stage, family structures, ethnic and cultural factors. Emphasis on safety, health and nutrition. Review of available community resources and programs for young children. (CSU)

HDEV 304 INFANT/TODDLER LEARNING AND DEVELOPMENT SYSTEM  
Units: 1  
Hours: 18 lecture  
Introduction to “California Infant/Toddler Learning and Development Foundations” and “Infant/Toddler Learning and Development Program Guidelines.” (CSU)

HDEV 400 SELECTED TOPICS IN HUMAN DEVELOPMENT  
Units: 0.5-4  
Courses of study will cover topics relevant to the discipline. Topics will vary. Course content and unit credit to be determined by the division. May be offered as seminar, lecture, or lecture/laboratory classes. Students may repeat “400” courses within a discipline only when a topic is different from previously completed course. See Selected Topics page in catalog. (not transferable)

HDEV 406 PREKINDERGARTEN GUIDELINES  
Units: 1  
Hours: 24 (18 lecture, 6 activity)  
Covers California Department of Education Prekindergarten Guidelines. (not transferable)
HDEV 407 NON-VIOLENCE IN THE LIVES OF CHILDREN
Units: 1
Hours: 24 (16 lecture, 8 laboratory)
Covers the National Association for the Education of Young Children developmental framework and addresses the need for teacher training concerning the issues of violence in the lives of children. (not transferable)

HDEV 408 ENVIRONMENTAL RATING SCALES FOR EARLY CHILDHOOD EDUCATION
Units: 0.5
Hours: 13 (7 lecture, 6 laboratory)
Examines and practices uses of Environmental Rating Scales (Infant/Toddler, Early Childhood, School Age, and Family Child Care) as a tool for quality improvement in a variety of child development programs. Focus on theory and developmentally appropriate practices in order to evaluate classrooms, materials, and interactions between adults and young children. (not transferable)

Humanities

LIBERAL ARTS
DEAN: Debra Sutphen
ASSOCIATE DEAN: Rebecca Bocchicchio
DIVISION OFFICE: W 107
FACULTY: J. Haproff, J. Keating, J. Terry
LIAISON COUNSELORS: C. Axton, Reyes Ortega

The study of Humanities offers an approach which integrates the arts, literature, history, music, philosophy, and other disciplines. The program focuses on the culture of human civilization from classic antiquity through the Middle Ages and Renaissance to the Modern Era. The objective of the Humanities is to give a sense of wholeness to human experience.

HUMANITIES: GENERAL
A.A. DEGREE
The A.A. degree in Humanities: General provides preparation for upper division course work in Humanities at a four-year university. The degree acquaints students with the relevant eras, ideas, ideals, values and terminology endemic to the field as expressed in art, music, drama, literature, philosophy, and religion. The Humanities: General A.A. degree pattern affords students the widest array of Humanities coursework from which to choose to satisfy transfer institution requirements. Students must fulfill program requirements and all associate degree requirements for the A.A. degree; see pages 42-43.

REQUIRED CORE COURSES

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>HUM 1 Introduction to Humanities I</td>
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<tr>
<td>HUM 2 Introduction to Humanities II</td>
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<tr>
<td>HUM 3 Introduction to Asian Humanities</td>
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PLUS 12 UNITS FROM:

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<tr>
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<tr>
<td>AAD 12 Visual Communication (also COMM 12)</td>
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<tr>
<td>ART 1A History of Prehistoric through Gothic Art</td>
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<tr>
<td>ART 1B History of Renaissance to Mid-Nineteenth Century Art</td>
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<tr>
<td>ART 1C History of Modern to Contemporary Art</td>
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<tr>
<td>ART 1D History of Asian Art</td>
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<td>ART 1E History of Women in Art</td>
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<tr>
<td>ART 1F Introduction to Islamic Art</td>
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<tr>
<td>ART 10 Art Appreciation</td>
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<tr>
<td>ART 11 History and Aesthetics of Photography (also PHOT 10)</td>
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<td>ART 80 Issues in Contemporary Art</td>
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<td>DRMA 13 Introduction to Theater</td>
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<td>DRMA 20 Play, Performance, and Perception</td>
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<tr>
<td>ENGL 1B Critical Thinking and Writing about Literature</td>
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<tr>
<td>ENGL 24 Reading Literature: Introduction to Critical Issues and Concepts</td>
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<tr>
<td>ENGL 25 African-American Literature</td>
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<td>ENGL 26 Introduction to Native American Literature</td>
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<tr>
<td>ENGL 27 Literature by Women</td>
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<td>ENGL 29 Introduction to Drama as Literature</td>
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<tr>
<td>ENGL 30A American Literature—Beginnings through Civil War</td>
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<td>ENGL 30B American Literature—Civil War to the Present</td>
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<tr>
<td>ENGL 32 Introduction to Poetry</td>
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<td>ENGL 33 Introduction to Shakespeare (The Drama)</td>
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<td>ENGL 34 Introduction to the Novel</td>
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<td>ENGL 35 Introduction to the Short Story</td>
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<td>ENGL 37 American Film Masterpieces</td>
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<td>ENGL 38 International Film Masterpieces</td>
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<td>ENGL 40 The Filmed Novel</td>
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<td>ENGL 42 The Documentary Film</td>
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<td>ENGL 43 Introduction to California Literature</td>
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<td>ENGL 44 Introduction to Children’s Literature (also HDEV 44)</td>
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<td>ENGL 45 Introduction to Adolescent Literature (also HDEV 45)</td>
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<td>ENGL 46A English Literature</td>
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<td>ENGL 47A World Literature</td>
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<td>ENGL 48 Literature of Science Fiction</td>
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<tr>
<td>HUM 5 Classical Roots of the Contemporary Western World</td>
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<tr>
<td>HUM 9 Introduction to Women, Gender and Religion (also WMST 3)</td>
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<td>HUM 10 World Religions</td>
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<tr>
<td>HUM 11 Introduction to Islam</td>
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<td>HUM 15 Introduction to Mythology</td>
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<td>HUM 17 Introduction to Atheism</td>
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<td>HUM 20 Introduction to the Old Testament</td>
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<td>HUM 21 Introduction to the New Testament</td>
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<td>HUM 27 Introduction to LGBT Studies/Queer Theory (also WMST 2)</td>
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<tr>
<td>MUS 2 Music Appreciation</td>
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<td>MUS 11 Introduction and History of Jazz</td>
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<tr>
<td>MUS 12A Survey of Music History and Literature to 1750</td>
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<tr>
<td>MUS 12B Survey of Music History and Literature from 1750 to Present</td>
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<tr>
<td>MUS 13 Introduction to Music: History of Rock and Roll</td>
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<tr>
<td>PHIL 2 Introduction to Philosophy: Ethics</td>
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<tr>
<td>PHIL 4 Introduction to Critical Thinking</td>
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PHIL 6 Introduction to Philosophy: Knowledge and Reality . . . . . . 3
PHIL 10 Philosophy of Religion ........................................ 3
PHIL 13 Introduction to Asian Philosophy .......................... 3
PHIL 15 Introduction to Philosophies of Self and Personhood . . 3
PHIL 20 Introduction to Ancient Greek Philosophy ............... 3
PHIL 21 History of Modern Philosophy ............................ 3
PHIL 27 Introduction to Philosophy of Women in Western Cultures 3
PHIL 30 Introduction to Social and Political Philosophy .......... 3
PHIL 50 Introduction to Philosophy through Literature and Film 3
PHIL 60 Introduction to Environmental Ethics .................... 3
PHIL 65 Introduction to the Philosophy of Science ............... 3
TOTAL UNITS REQUIRED: 21

HUMANITIES: DIVERSE PERSPECTIVES
A.A. DEGREE

The A.A. degree in Humanities: Diverse Perspectives provides preparation for upper division course work in Humanities at a four-year university. The Humanities: Diverse Perspectives A.A. degree pattern guides students through a series of courses that focus specifically on examining History, Art, Architecture, Philosophy, Drama, Literature and Music from diverse perspectives. Students must fulfill major requirements and all associate degree requirements for the A.A. degree; see pages 42-43.

REQUIRED CORE COURSES

<table>
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<tr>
<td>HUM 3 Introduction to Asian Humanities</td>
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PLUS 12 UNITS FROM THE FOLLOWING:

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<td>ART 1D History of Asian Art</td>
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<td>ART 1E History of Women in Art</td>
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<tr>
<td>ART 1F Introduction to Islamic Art</td>
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<td>ENGL 25 African-American Literature</td>
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<td>ENGL 26 Introduction to Native American Literature</td>
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<td>ENGL 27 Literature by Women</td>
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<td>HIST 19A History of Traditional East Asia</td>
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<tr>
<td>HIST 19B History of Modern East Asia</td>
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<tr>
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<td>HUM 15 Introduction to Mythology</td>
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<td>PHIL 15 Introduction to Philosophies of Self and Personhood</td>
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<td>PHIL 27 Introduction to Philosophy of Women in Western Cultures</td>
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<td>SSCI 10 Introduction to Ethnic Studies</td>
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<tr>
<td>SSCI 13 Dialogues in American Culture</td>
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</table>
TOTAL UNITS REQUIRED: 21

HUMANITIES: ASIAN STUDIES
A.A. DEGREE

The A.A. degree in Humanities: Asian Studies provides preparation for upper-division course work in Humanities at a four-year university. The degree will guide students to examine the Asian experience through its ideas (philosophy), through its commitment to its culture, traditions, and rituals (religions), and through its applied practices (the disciplines for self-development of body/mind health, meditation, and martial arts). Courses are offered which provide opportunities for self-discovery and the construction of a coherent outlook and critical reason. Students must fulfill major requirements and all associate degree requirements for the A.A. degree; see pages 42-43.

REQUIRED CORE COURSES

<table>
<thead>
<tr>
<th>COURSE</th>
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<tbody>
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<td>HUM 3 Introduction to Asian Humanities</td>
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ADDITIONAL REQUIRED COURSES:

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<tr>
<td>PHED 55 Fundamentals of Yoga AND/OR</td>
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<td>PHED 57 Developing a Personal Yoga Practice</td>
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<tr>
<td>PHED 14 Tai Chi AND/OR</td>
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<td>PHED 66 Combative Self Defense</td>
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PLUS 8 UNITS FROM:

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<tr>
<td>ART 1F Introduction to Islamic Art</td>
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<td>HIST 19A History of Traditional East Asia</td>
<td>3</td>
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<td>HIST 19B History of Modern East Asia</td>
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<tr>
<td>HUM 10 World Religions</td>
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<tr>
<td>JPN 1 Elementary Japanese</td>
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<tr>
<td>PHIL 13 Introduction to Asian Philosophy</td>
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<tr>
<td>PHED 68 Introduction to Meditation</td>
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TOTAL UNITS REQUIRED: 20

Humanities Courses

HUM 1 INTRODUCTION TO HUMANITIES I

Units: 3
Advisory: Eligibility for ENGL 1A
Hours: 54 lecture
Introduction to the art, architecture, history, literature, music, religion and philosophy from the ancient through the medieval world. Emphasis on classical Greece and Rome. (CSU, UC)

HUM 2 INTRODUCTION TO HUMANITIES II

Units: 3
Advisory: Eligibility for ENGL 1A
Hours: 54 lecture
Introduction to the art, architecture, history, literature, music, religion and philosophy of the Western World from the Renaissance to the present. (CSU, UC)
HUM 3 INTRODUCTION TO ASIAN HUMANITIES  
Units: 3  
Advisory: Eligibility for ENGL 1A  
Hours: 54 lecture  
Introduction to the art, architecture, history, literature, religions and philosophy of Asia with an emphasis on India, China and Japan from ancient times to the present. The Eastern mode of thinking emphasized and compared with those of the West. (CSU, UC)

HUM 5 CLASSICAL ROOTS OF THE CONTEMPORARY WESTERN WORLD  
Formerly known as HUM 300G  
Units: 3  
Advisory: Eligibility for ENGL 1A  
Hours: 54 lecture  
An examination of the Classical World’s influence on the Contemporary Western World with special emphasis on theology, body image, love and sex, gender roles, democracy, conceptions of the good life, and entertainment based upon evidence from the art, architecture, literature, and philosophy of the Classical World. (CSU, UC)

HUM 9 INTRODUCTION TO WOMEN, GENDER AND RELIGION  
Also known as WMST 3  
Units: 3  
Hours: 54 lecture  
Introduction to the topic of religion from a feminist perspective through a cross-cultural examination of major religious traditions of the East and West, as well as tribal faith practices. Emphasis on the historical role of women and gender in rituals, sacred texts, institutional structures, doctrine and religious iconography with respect to the impact on contemporary women regarding faith, politics and identity. (CSU, UC)

HUM 10 WORLD RELIGIONS  
Units: 3  
Advisory: Eligibility for ENGL 1A  
Hours: 54 lecture  
Investigates rituals, ethics, institutional structures and the cultural ethos of world religions including myths, doctrines and sacred texts. Focuses on Tribal Religions, Confucianism/Taoism, Hinduism, Buddhism, Judaism, Christianity, Islam, and related religious movements. (CSU, UC)

HUM 11 INTRODUCTION TO ISLAM  
Units: 3  
Hours: 54 lecture  
An introduction to Islam, from its origins through the present time and including study of Islam's history, major figures, texts and guiding principles. (CSU, UC)

HUM 15 INTRODUCTION TO MYTHOLOGY  
Units: 3  
Advisory: Eligibility for ENGL 1A  
Hours: 54 lecture  
The major elements of western mythology, its history and development as part of the human experience and its influence on art, literature and politics. (CSU, UC)

HUM 17 INTRODUCTION TO ATHEISM  
Units: 3  
Hours: 54 lecture  
An introduction to the philosophy of atheism, its historical roots, major thinkers, and expressions in art, literature and philosophy. Includes a history of free inquiry and thought, secular humanism, humanistic ethics and scientific naturalism. (CSU, UC)

HUM 20 INTRODUCTION TO THE OLD TESTAMENT  
Units: 3  
Hours: 54 lecture  
Introduction to the texts and development of the Torah, Old Testament and Apocrypha through a critical reading of their writings. Includes history, cultural influences, language, authorship, events, personages/characters, ideas, and beliefs of ancient Israel as well as the relationship between Hebrew Scriptures and archaeology, literature, history, current Biblical scholarship criticism, and women’s studies. (CSU, UC)

HUM 21 INTRODUCTION TO THE NEW TESTAMENT  
Units: 3  
Advisory: Eligibility for ENGL 1A  
Hours: 54 lecture  

HUM 27 INTRODUCTION TO LGBT STUDIES/QUEER THEORY  
Also known as WMST 2  
Units: 3  
Advisory: Eligibility for ENGL 1A  
Hours: 54 lecture  
A broad and general introduction to Queer Theory as an historical consequence of Feminism and Gay and Lesbian Studies. Emphasis on theoretical and philosophical underpinnings of Queer Theory, Social Construction versus Essentialism, Postmodernist theory, Politics, LGBT Studies and Queer Culture. (CSU, UC)
HUM 28 INDEPENDENT STUDY
Units: 1-3
Designed for students interested in furthering their knowledge at an independent study level in an area where no specific curriculum offering is currently available. Independent study problems might include, but are not limited to, research papers, special construction projects, and research projects. May be taken four times for credit. See Independent Study page in catalog. (CSU, UC—with unit limitation)

HUM 30 STUDYING AND LEARNING ABROAD
Units: 1
Hours: 18 lecture
Issues of studying abroad including practical concerns of international travel, living and studying in a foreign country, awareness of cross-cultural issues, and knowledge and appreciation of host country, and re-entry issues. (CSU)

HUM 300 SELECTED TOPICS IN HUMANITIES
Units: 0.5-4
Courses of study will cover topics relevant to the discipline. Topics will vary. Course content and unit credit to be determined by the division. May be offered as seminar, lecture, or lecture/laboratory classes. Students may repeat “300” courses within a discipline only when a topic is different from previously completed course. See Selected Topics page in catalog. (CSU, UC—with unit limitation)

HUM 300E RENAISSANCE ITALY AND THE BIRTH OF THE MODERN WORLD
Units: 3
Hours: 54 lecture
An introduction to the roles Renaissance Italy played in the formation of modern systems of education, engineering/architecture, economics, cartography, diplomacy, and the visual arts. Special attention will be given to the Platonic Academy and Marsilio Ficino, Brunelleschi’s Duomo, the evolution of perspective, the Medici banking system, the Italian City-Republics, and the 2-D and 3-D revolutions in Italian Renaissance art. (CSU, UC)

HUM 300F HABSBURG CIVILIZATION
Units: 3
Hours: 54 lecture
Introduction to Habsburg civilization and culture through exploration of the history of the Austrian empire from the 17th century to its demise in World War I, with focus on music, art, architecture, and other manifestations of popular expression. Includes field trips to Salzburg, Budapest, and Prague. (CSU, UC)

HUM 300I ARGENTINE CULTURE AND CIVILIZATION
Units: 3
Hours: 54 lecture
Introduction to Argentine culture and civilization through the exploration of history, art, literature, dance, film, religion, politics, and aspects of popular culture. Course involves activities including field trips to museums, historical sites, sporting events, cultural performances and lessons. (CSU, UC)

HUM 300M SPANISH CIVILIZATION AND CULTURE
Units: 3
Hours: 54 lecture
Introduction to Spanish civilization and culture through exploration of the history of Spain, the arts, and other manifestations of popular expression. Includes topics in history, sociology, and artistic expression. (CSU, UC)

HUM 300S AUSTRALIAN LIFE AND CULTURE
Units: 3
Hours: 54 lecture
Introduction to Australian life and culture through exploration of its history, films, cultural values, conflicts, and challenges. Also emphasized will be current events from an Australian perspective as well as an oral history project which will ask Australians to tell us about themselves. Course will involve field trips to museums and historical sites, guest lecturers, and attendance at local performances. (CSU, UC)

HUM 300X CIVILIZATION OF ENGLAND
Units: 3
Hours: 54 lecture
Study of the culture and civilization of England, specifically London. Focus on religion, history, philosophy, politics and literature. (CSU, UC)
Interdisciplinary

**SCIENCE & MATHEMATICS**
DEAN: Heather Roberts
ASSOCIATE DEAN: Michael Kane
DIVISION OFFICE: V 211
LIAISON COUNSELORS: T. Maddux, V. Skeels

Interdisciplinary courses are the cooperative product of a number of faculty members (usually from different departments and disciplines) in an effort to look at a unique topic from various academic and/or experiential backgrounds.

**Interdisciplinary Courses**

**INT 1 THE ENVIRONMENT AND THE HUMAN IMPACT**
Units: 3
Advisory: Completion of ENGL A or equivalent strongly recommended
Hours: 54 lecture
Designed to provide the student with theoretical and practical understanding of the principles of ecology, the complexities of technology, and the contemporary problems of the environment on both a local and global level. Lecture/discussion and films in the areas of population, technology, environmental restoration, land use, energy, pollution, and world hunger, as well as the basic concepts, economics, politics, poetry, literature, and philosophy of ecology. (CSU, UC)

**INT 5 THE CALIFORNIA LANDSCAPE: AN INTEGRATED EXPLORATION**
Units: 3
Advisory: Completion of ENGL A or equivalent strongly recommended
Hours: 54 lecture
An interdisciplinary exploration of the diverse natural environment of California, including the geography, geology, weather and climate, flora and fauna, land use, and prehistoric evolution of the region. Considerations of the influences of California’s natural features on the history, art, literature, and environmental politics of the West. Emphasis on the Sierra Nevada and adjacent provinces of central and northern California. (CSU, UC—with unit limitation)

**INT 6 THE SIERRA NEVADA**
Units: 3
Advisory: Completion of ENGL A or equivalent strongly recommended
Hours: 54 lecture
Integrated study of the Sierra Nevada including its physical attributes, geological characteristics, origin and development, flora and fauna, water resources, historical and economic significance, and influences on literature, art, and culture. Includes contemporary environmental, economic, and management issues in the Sierra. (CSU, UC—with unit limitation)

**INT 8 ENVIRONMENTALLY COMPATIBLE URBAN DESIGN**
Units: 4
Advisory: Completion of ENGL A or equivalent strongly recommended
Hours: 108 (54 lecture, 54 laboratory)
Exploration of science, technology, culture and environment relative to urban design. Emphasizes environmentally compatible urban design (economics, energy, ecology, art, culture) and moral, ethical and legal ramifications. (CSU, UC)

**INT 10 MUSEUM METHODS**
Units: 2-4
Hours: 72 (18 lecture, 54 laboratory) per 2 units
Purpose, techniques and activities of museum operations. Museum goals and themes; collection acquisition, preparation, preservation, and reproduction for research, exhibition, and storage; exhibit design, implementation, and interpretation; signage, documentation, announcements and publicity. Includes natural history or art. May be taken four times for credit. (CSU)

**INT 11 LIFE IN THE UNIVERSE**
Units: 3
Hours: 54 lecture
Study of the emerging discipline of astrobiology. Designed for science and non-science majors. Relevant principles of biology, astronomy, and earth science used in searching for life in the universe. Includes cultural and philosophical aspects of life existing elsewhere in the universe. (CSU)

**Italian**

**LIBERAL ARTS**
DEAN: Debra Sutphen
ASSOCIATE DEAN: Rebecca Bocchicchio
DIVISION OFFICE: W 107
LIAISON COUNSELOR: D. Quadros

The active part that the United States is now taking in world affairs makes it desirable that a greater number of Americans than ever before have a knowledge of foreign languages and cultures. A language background should be of intrinsic value. The acquisition of desired practical communication skills in the study of a modern foreign language is the primary objective. This can be accomplished by the oral approach, motivated by lectures, and implemented by the language laboratory.

TRANSFER MAJOR REQUIREMENTS in Foreign Language are available in the Counseling Center. In all cases, students should consult with a counselor for specific transfer requirements. Four-year graduates in Foreign Languages are qualified for positions in teaching, business, foreign services, law enforcement, nursing, secretarial, and diplomatic services.
Italian Courses

ITAL 1 ELEMENTARY ITALIAN
Units: 4
Hours: 90 (72 lecture, 18 laboratory)
Intensive instruction in understanding, speaking, reading, and writing elementary Italian. Basic grammar, regular and some irregular verbs in the present tense of the indicative mood. Daily practice in speaking and writing. Corresponds to two years of high school study. (CSU, UC)

ITAL 2 ELEMENTARY ITALIAN
Units: 4
Prerequisite: Completion of ITAL 1 or equivalent
Hours: 90 (72 lecture, 18 laboratory)
Intensive basic grammar, greater emphasis on speaking and writing. Emphasis on culture and events of the areas where Italian is spoken. (CSU, UC)

ITAL 3 INTERMEDIATE ITALIAN
Units: 4
Prerequisite: Completion of ITAL 2 or equivalent
Hours: 90 (72 lecture, 18 laboratory)
Designed for those with previous training in the Italian language. Continues to teach culture and facilitate language acquisition through listening, speaking, reading and writing. Emphasis on speaking, using more complex linguistic structures of the language, and reading and writing. Authentic Italian texts and excerpts from works of Italian authors read and analyzed in the classroom. Continued development of the ability to analyze linguistic structures and reflect on and evaluate cross-cultural differences. (CSU, UC)

Japanese Courses

JPN 1 ELEMENTARY JAPANESE
Units: 4
Hours: 90 (72 lecture, 18 laboratory)
Introduction to Japanese language; reading, writing, with emphasis on speaking. Pronunciation, sound system, intonation, basic vocabulary and grammar of spoken Japanese. Grammar emphasis is word order, postpositions, and some conjugation in simple sentences. Introduction to geography, customs and culture of Japan. Students required to learn Hiragana script. Corresponds to two years of high school study. (CSU, UC)

JPN 2 ELEMENTARY JAPANESE
Units: 4
Prerequisite: Completion of JPN 1, or two years of high school Japanese, or equivalent
Hours: 90 (72 lecture, 18 laboratory)
Continuation of Japanese 1 with increased emphasis on reading, writing and grammatical forms. Stresses vocabulary, idioms, postpositions, and grammar. Study of more complex subordinate phrases and clauses. Includes Hiragana, as well as, Katakana and simple Kanji ideographs. Further study of geography, customs and culture of Japan. (CSU, UC)

JPN 28 INDEPENDENT STUDY
Units: 1-3
Designed for students interested in furthering their knowledge at an independent study level where no specific curriculum offering is currently available. Independent study might include, but is not limited to, research papers, special subject area projects and research projects. May be taken four times for credit. See Independent Study page in catalog. (CSU, UC—with unit limitation)
Journalism

LIBERAL ARTS
DEAN: Debra Sutphen
ASSOCIATE DEAN: Rebecca Bocchicchio
DIVISION OFFICE: W 107
LIAISON COUNSELORS: E. Farrell, V. Rogers

TRANSFER MAJOR REQUIREMENTS in Journalism are available in the Counseling Center. In all cases, students should consult with a counselor for specific transfer requirements. Positions for which four-year graduates in Journalism are qualified are in writing, news reporting, public relations, and editing.

Journalism Courses

JRNL 20A INTRODUCTION TO JOURNALISM
Units: 3
Advisory: Eligibility for ENGL 1A recommended
Hours: 54 lecture
Introduction to communications and mass media journalism. Designed to survey the field and offer initial experience in news gathering, reporting, and interpretation. Classroom and textbook experience is augmented by participation in campus news media. (CSU)

JRNL 28 INDEPENDENT STUDY
Units: 1-3
Designed for students interested in furthering their knowledge at an independent study level in an area where no specific curriculum offering is currently available. Independent study might include, but is not limited to, research papers, special subject area projects, and research projects. May be taken four times for credit. See Independent Study page in catalog. (CSU)

JRNL 95 INTERNSHIP IN JOURNALISM
Units: 0.5-4
Designed for advanced students to work in an area related to their educational or occupational goal. Provides new on-the-job technical training under the direction of a worksite supervisor, allowing students to expand knowledge and skills in the chosen field. Mandatory orientation session and faculty approval to determine eligibility. Students may earn up to a total of 16 units in internship courses (any course numbered 95 and PDEV 94). (CSU—with unit limitation)

Learning Disabilities

STUDENT SERVICES
DEAN: Kaylene Hallberg
DIVISION OFFICE: Winstead Center L-102
FACULTY: T. Prouty
AREA OFFICE: MT-8
LIAISON COUNSELORS: S. Bramlett, M. Kwoka

Learning Disabilities Courses

LRDS 610 LEARNING DISABILITIES ORIENTATION
Units: 0.5
Hours: 9 lecture
Orientation to the Learning Disabilities program and assessment of learning strengths and weaknesses to determine eligibility for learning disability services using step by step guidelines mandated by the California Community College system. (pass/no pass grading) (not degree applicable)

Liberal Arts

LIBERAL ARTS
DEAN: Debra Sutphen
ASSOCIATE DEAN: Rebecca Bocchicchio
DIVISION OFFICE: W 107

ARTS AND CULTURES
A.A. DEGREE
This program provides an introduction to critical thinking, multicultural studies, and the arts for students interested in strengthening their analytical and communication skills and/or transferring to four-year colleges and universities. This degree builds a knowledge base appropriate for students transferring to arts and humanities programs at four-year institutions or for students building a base for transfer specialization in areas of emphasis that require primarily upper-division coursework, such as Social Work, Multicultural and Gender Studies, or World Arts and Cultures. In all cases students should consult with a counselor for specific transfer requirements. Students must fulfill program requirements and all associate degree requirements for the A.A. degree; see pages 42-43.

REQUIRED COURSES
9 UNITS FROM THE ARTS:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>ART 1A History of Prehistoric through Gothic</td>
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<tr>
<td>ART 1B History of Renaissance to Mid-Nineteenth Century Art.</td>
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<tr>
<td>ART 1C History of Modern to Contemporary Art.</td>
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<tr>
<td>ART 1D History of Asian Art.</td>
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<td>ART 1E History of Women in Art.</td>
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<tr>
<td>ART 1F Introduction to Islamic Art.</td>
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<tr>
<td>ART 1G History of the Arts of Africa, The Americas, and Oceania</td>
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<td>ART 10 Art Appreciation.</td>
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<td>ART 11</td>
<td>History and Aesthetics of Photography (also PHOT 10)</td>
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<td>ART 80</td>
<td>Issues in Contemporary Art</td>
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<td>DRMA 13</td>
<td>Introduction to Theater</td>
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<td>ENGL 24</td>
<td>Reading Literature: Introduction to Critical Issues and Concepts</td>
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<td>ENGL 25</td>
<td>African-American Literature</td>
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<td>ENGL 26</td>
<td>Introduction to Native American Literature</td>
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<td>ENGL 27</td>
<td>Literature by Women</td>
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<td>ENGL 29</td>
<td>Introduction to Drama as Literature</td>
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<td>ENGL 30A</td>
<td>American Literature—Beginnings through Civil War</td>
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<td>ENGL 30B</td>
<td>American Literature—Civil War to the Present</td>
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<td>ENGL 32</td>
<td>Introduction to Poetry</td>
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<td>ENGL 33</td>
<td>Introduction to Shakespeare (The Drama)</td>
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<td>ENGL 34</td>
<td>Introduction to the Novel</td>
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<td>ENGL 35</td>
<td>Introduction to the Short Story</td>
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<td>ENGL 37</td>
<td>American Film Masterpieces</td>
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<td>ENGL 38</td>
<td>International Film Masterpieces</td>
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<tr>
<td>ENGL 40</td>
<td>The Filmed Novel</td>
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<tr>
<td>ENGL 41</td>
<td>The Documentary Film: Argumentative Discourse</td>
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<td>ENGL 42</td>
<td>The Documentary Film</td>
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<td>ENGL 43</td>
<td>Introduction to California Literature</td>
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<td>ENGL 44</td>
<td>Introduction to Children's Literature (also HDEV 44)</td>
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<td>ENGL 45</td>
<td>Introduction to Adolescent Literature (also HDEV 45)</td>
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<td>ENGL 46A</td>
<td>English Literature</td>
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<td>ENGL 46B</td>
<td>English Literature</td>
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<td>ENGL 47A</td>
<td>World Literature</td>
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<td>ENGL 47B</td>
<td>World Literature</td>
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<tr>
<td>ENGL 48</td>
<td>Literature of Science Fiction</td>
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<td>ENGL 49</td>
<td>Literature of American Nature Writing</td>
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<td>HUM 1</td>
<td>Introduction to Humanities I</td>
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<td>HUM 2</td>
<td>Introduction to Humanities II</td>
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<td>MUS 2</td>
<td>Music Appreciation</td>
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<td>MUS 11</td>
<td>Introduction and History of Jazz</td>
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<td>MUS 12A</td>
<td>Survey of Music History and Literature to 1750</td>
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<td>MUS 12B</td>
<td>Survey of Music History and Literature from 1750 to Present</td>
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<tr>
<td>MUS 13</td>
<td>Introduction to Music: History of Rock and Roll</td>
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**PLUS 9 UNITS FROM CULTURAL STUDIES:**

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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<td>ANTH 2</td>
<td>Cultural Anthropology</td>
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<td>ANTH 4</td>
<td>Native Peoples of North America</td>
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<td>ANTH 7</td>
<td>Native Peoples of California</td>
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<td>ANTH 9</td>
<td>Magic, Witchcraft, Ritual, Myth and Religion</td>
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<td>ANTH 27</td>
<td>Gender, Sex and Culture</td>
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<td>COMM 7</td>
<td>Intercultural Communication</td>
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<td>COMM 10</td>
<td>Survey of Communication Studies</td>
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<td>American Sign Language III</td>
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<td>DSFT 4</td>
<td>American Sign Language IV</td>
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<td>DSFT 5</td>
<td>Introduction to American Deaf History and Culture</td>
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<td>GEOG 2</td>
<td>Cultural Geography</td>
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<td>GEOG 3</td>
<td>Geography of California</td>
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<td>GEOG 5</td>
<td>World Regional Geography</td>
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<td>HIST 17A</td>
<td>History of the United States</td>
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<td>HIST 17B</td>
<td>History of the United States</td>
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<td>HIST 19A</td>
<td>History of Traditional East Asia</td>
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<td>History of Modern East Asia</td>
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<td>HIST 20</td>
<td>California History</td>
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<td>HIST 21</td>
<td>Contemporary United States History</td>
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<td>HIST 23</td>
<td>Chicano/Mexican American History</td>
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<td>HIST 24</td>
<td>Russian History—10th Century to Present</td>
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<td>HIST 27</td>
<td>Women in American History</td>
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<td>HIST 50</td>
<td>World History to 1450</td>
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<td>HIST 51</td>
<td>World History since 1450</td>
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<td>HDEV 25</td>
<td>Culture and Diversity in Early Childhood Education</td>
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<td>HUM 3</td>
<td>Introduction to Asian Humanities</td>
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<td>HUM 10</td>
<td>World Religions</td>
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<td>HUM 11</td>
<td>Introduction to Islam</td>
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<td>HUM 27</td>
<td>Introduction to LGBT Studies/Queer Theory (also WMST 2)</td>
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<td>ITAL 3</td>
<td>Intermediate Italian</td>
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<td>JPN 1</td>
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<td>JPN 2</td>
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<td>PHIL 13</td>
<td>Introduction to Asian Philosophy</td>
<td>3</td>
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<td>PHIL 15</td>
<td>Introduction to Philosophies of Self and Personhood</td>
<td>3</td>
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<td>PHIL 27</td>
<td>Introduction to Philosophy of Women in Western Cultures</td>
<td>3</td>
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<td>POLS 7</td>
<td>Politics of the Developing World—Third World Politics</td>
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<td>POLS 9</td>
<td>Politics of the Middle East</td>
<td>3</td>
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<td>POLS 27</td>
<td>Women and Politics in a Global Society</td>
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<td>PSYC 27</td>
<td>Psychology of Women</td>
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<td>SOC 3</td>
<td>Race, Ethnicity and Inequality</td>
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<td>SSCI 10</td>
<td>Introduction to Ethnic Studies</td>
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<td>SSCI 13</td>
<td>Dialogues in American Culture</td>
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<td>SSCI 20</td>
<td>African American Culture and Experience</td>
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<td>SSCI 25</td>
<td>Mexican American/Latino Culture and Image</td>
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<td>SSCI 30</td>
<td>Immigration, Community and Culture: Asian American Experience</td>
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<td>SSCI 35</td>
<td>Immigrants and Refugees in America: The European Experience</td>
<td>3</td>
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<tr>
<td>SSCI 40</td>
<td>American Legal System and Equality: Ethnic/Cultural Perspective</td>
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<td>SSCI 50</td>
<td>Ethnic Images in Film</td>
<td>3</td>
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<td>SPAN 3</td>
<td>Intermediate Spanish</td>
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<td>SPAN 4</td>
<td>Intermediate Spanish</td>
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<tr>
<td>WMST 1</td>
<td>Introduction to Women’s Studies</td>
<td>3</td>
</tr>
</tbody>
</table>

**TOTAL UNITS REQUIRED: 18**

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**Liberal Studies**

*(See Education)*
Ways of accessing information increase almost as rapidly as the amount of information available. Opportunities exist for work in academic, industrial, public and specialized libraries.

Course work in library science trains students to organize, process, manage and disseminate information in its varied forms. Core skills courses in the use of libraries develop a working knowledge of the Sierra College Library/Learning Resource Center and college-level library research skills in general.

**LIBRARY MEDIA TECHNICIAN SKILLS CERTIFICATE**

Course work in library science and the attainment of the Library/ Media Technician Skills Certificate will train students to organize, process, manage and disseminate information in its varied forms. The certificate will help students prepare for entry level jobs in business, school, public, and college libraries. It will assist those currently employed in non-professional library positions to upgrade existing skills and knowledge. A certificate is designed to provide career technical skills; it is not equivalent to an A.A. or A.S. degree.

**REQUIRED COURSES**

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<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tr>
<td>LIBS 10A Information Literacy and Lifelong Learning</td>
<td>2</td>
</tr>
<tr>
<td>LIBS 10B Library Research Process</td>
<td>2</td>
</tr>
<tr>
<td>LIBS 20 Technical Services—Circulation</td>
<td>3</td>
</tr>
<tr>
<td>LIBS 25 Technical Services—Media and Distance Learning Technologies</td>
<td>3</td>
</tr>
<tr>
<td>LIBS 30 Technical Services—Cataloging</td>
<td>3</td>
</tr>
<tr>
<td>LIBS 40 Libraries Today: Issues, Trends, Directions</td>
<td>2</td>
</tr>
<tr>
<td>LIBS 95 Internship in Library Science</td>
<td>2</td>
</tr>
</tbody>
</table>

**TOTAL UNITS REQUIRED: 17**

**Library Science Courses**

**LIBS 10A INFORMATION LITERACY AND LIFELONG LEARNING**

Units: 2  
Hours: 36 lecture  
Develops core library skills including general and specialized reference resources, classification systems, print and electronic research tools, and methods of Internet research. (CSU, UC—with unit limitation)

**LIBS 10B LIBRARY RESEARCH PROCESS**

Units: 2  
Advisory: Completion of LIBS 10A or equivalent experience  
Hours: 36 lecture  
Advanced library research processes utilizing print and electronic resources to conduct higher level research including Internet searches and the evaluation and comparison of resources. (CSU, UC—with unit limitation)

**LIBS 20 TECHNICAL SERVICES—CIRCULATION**

Units: 3  
Hours: 54 lecture  
Technical skills needed to perform circulation responsibilities using: automated circulation systems, patron interview techniques, online Interlibrary Loan and consortium services, collections maintenance, and exploration of career opportunities. (CSU)

**LIBS 25 TECHNICAL SERVICES—MEDIA AND DISTANCE LEARNING TECHNOLOGIES**

Units: 3  
Hours: 54 lecture  
Overview of media technologies and distance learning as integral components of electronic libraries. Includes distance learning terminology, definitions, delivery methods, technology, copyright, assessment, accessibility, student support services, and key areas of mass communications and media production. (CSU)

**LIBS 28 INDEPENDENT STUDY**

Units: 1-3  
Designed for students interested in furthering their knowledge at an independent study level in an area where no specific curriculum offering is currently available. Independent study might include, but is not limited to, research papers, special subject area projects, and research projects. May be taken four times for credit. See Independent Study page in catalog. (CSU)

**LIBS 30 TECHNICAL SERVICES—CATALOGING**

Units: 3  
Hours: 54 lecture  
Basic rules and practices of cataloging and classification of resources, including books, periodicals, audiovisuals, computer software and Internet resources. Includes both manual and online network systems for copy cataloging Dewey and the Library of Congress classification. (CSU)

**LIBS 40 LIBRARIES TODAY: ISSUES, TRENDS, DIRECTIONS**

Units: 2  
Hours: 36 lecture  
Overview of the library science profession exploring interconnection among the different departments of modern library: acquisitions, cataloging, circulation, reference, media and distance learning, career opportunities and future trends in the profession. (CSU)
LIBS 95 INTERNSHIP IN LIBRARY SCIENCE
Units: 0.5-4
Designed for advanced students to work in an area related to their educational or occupational goal. Provides new on-the-job technical training under the direction of a worksite supervisor, allowing students to expand knowledge and skills in the chosen field. Mandatory orientation session and faculty approval to determine eligibility. Students may earn up to a total of 16 units in internship courses (any course numbered 95 and PDEV 94). (CSU—with unit limitation)

Management  
(See Business)

Marketing  
(See Business)

Mathematics

SCIENCES & MATHEMATICS
DEAN: Heather Roberts
ASSOCIATE DEAN: Michael Kane
DIVISION OFFICE: V 211
liaison Counselors: M. Moon, S. Muraki, P. Neal

Mathematics is a dynamic and developing field of study. It is the foundation and language of all scientific endeavor. Mathematics contributes in direct and important ways to business, finance, engineering, health, and public policy.

A degree in Mathematics or Statistics provides many challenging and rewarding career opportunities. These include teaching, research in engineering fields, molecular structures, genetics and medicine, robotics, digital imagery, computer-aided design, economic forecasting, and environmental design and modeling.

TRANSFER AND MAJOR REQUIREMENTS in Mathematics are available in the Counseling Center. In all cases, students should consult with a counselor for specific transfer requirements. Assessment testing is available at the Assessment Center in the Counseling Center.

MATHEMATICS
A.A. OR A.S. DEGREE
The Mathematics major recognizes a concentration in the field of Mathematics. Successful completion of the curriculum in Mathematics and the associated electives prepare Mathematics students for transfer to four-year colleges or universities. The program in Mathematics outlined below is typical of lower-division requirements for four-year colleges and universities: some requirements vary from college to college. Students are advised to meet with a counselor before selecting courses for appropriate campus specific course requirements.

REQUIRED COURSES:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 30 Analytical Geometry and Calculus</td>
<td>4-5</td>
</tr>
<tr>
<td>MATH 31 Analytical Geometry and Calculus</td>
<td>4-5</td>
</tr>
<tr>
<td>MATH 32 Analytical Geometry and Calculus</td>
<td>4</td>
</tr>
<tr>
<td>MATH 33 Differential Equations and Linear Algebra</td>
<td>6</td>
</tr>
</tbody>
</table>

PLUS 3-5 UNITS FROM THE FOLLOWING:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSCI 12 Introduction to Object-Oriented Programming</td>
<td>3</td>
</tr>
<tr>
<td>CSCI 27 Visual Basic.NET Programming I</td>
<td>3</td>
</tr>
<tr>
<td>CSCI 46 C Language Programming</td>
<td>3</td>
</tr>
<tr>
<td>MATH 10 Problem Solving</td>
<td>4</td>
</tr>
<tr>
<td>MATH 13 Elementary Statistics</td>
<td>4</td>
</tr>
<tr>
<td>MATH 15 Discrete Mathematics</td>
<td>4</td>
</tr>
<tr>
<td>MATH 17 Concepts of Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>MATH 18 The Nature of Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 4A Principles of Physics: Mechanics</td>
<td>5</td>
</tr>
</tbody>
</table>

TOTAL UNITS REQUIRED: 21-25

ALTERNATIVES TO TRADITIONAL LECTURE FORMAT FOR ALGEBRA
Some instructors teach algebra using a traditional lecture format while others use platforms that require the use of a computer and/or the Internet. Check the Mathematics Department Web Page at http://math.sierracollege.edu/ to determine the appropriate platform for your learning style.

MATHEMATICS COURSES
*All prerequisite courses must be completed with grades of "C" or better.
Two years of high school algebra means "Algebra I and Algebra II."
*It is strongly recommended that students without recent math coursework complete the matriculation assessment process. Contact the Assessment Center for further information.
Mathematical Course Progression

Arithmetic Review
Math 581 (4)

Pre Algebra
Math 582 (4)

Elementary Algebra
Math A (4/5)

Intermediate Algebra
Math D (4/5)

Problem Solving
Math 10 (4)

Statistics
Math 13 (4)

Discrete Math
Math 15 (4)

Concepts of Math
Math 17 (3)

The Nature of Mathematics
Math 18 (3)

Finite Math
Math 20 (3)

College Algebra
Math 12 (4)

Calculus - Life & Social Sciences
Math 16A (4)

Calculus - Life & Social Sciences
Math 16B (4)

Trigonometry
Math 8 (4)

Pre-Calculus
Math 29 (4)

Calculus I
Math 30 (4/5)

Calculus II
Math 31 (4/5)

Calculus III
Math 32 (4)

Diff Equations & Linear Algebra
Math 33 (6)
Mathematics Courses

MATH A ELEMENTARY ALGEBRA
Units: 4-5
Prerequisite: Completion of MATH 582 with a grade of “C” or better or placement by the matriculation assessment process
Hours: 72 lecture (4 units); 90 lecture (5 units)
Real numbers and their properties, first degree equations and inequalities, graphs of linear equations in two variables, systems of linear equations in two variables, properties of integer exponents, polynomial operations, basic factoring, rational expressions, radical expressions, quadratic equations, and applied problems and problem solving. (not transferable)

MATH B PLANE GEOMETRY
Units: 4
Prerequisite: Completion of MATH A with a grade of “C” or better, or placement by matriculation assessment process
Hours: 72 lecture
Study of points, lines, angles, polygons, triangles, similarity, congruence, geometric proofs, area, volume, perimeter, the circle, right triangle trigonometry. (not transferable)

MATH D INTERMEDIATE ALGEBRA
Units: 4-5
Prerequisite: Completion of MATH A with a grade of “C” or better or placement by matriculation assessment process
Hours: 72 lecture (4 units); 90 lecture (5 units)
Exponents, radicals, complex numbers, factoring, linear and quadratic equations and inequalities; linear, quadratic, exponential and logarithmic functions; graphing, and systems of equations. (not transferable)

MATH 8 TRIGONOMETRY
Units: 4
Prerequisite: Completion of MATH D with grade of “C” or better, or placement by matriculation assessment process
Hours: 72 lecture
Covers the fundamentals of trigonometry. Topics include review of algebraic functions, definitions of trigonometric and circular functions, graphs, identities and applications. Other material includes solving trigonometric equations, solving triangles using the Laws of Sines and Cosines, vectors, polar coordinates and graphs, polar representations of complex numbers and conic sections. (CSU)

MATH 10 PROBLEM SOLVING
Units: 4
Prerequisite: Two years of high school algebra or MATH D with a grade of “C” or better, or placement by matriculation assessment process
Hours: 72 lecture
Individual and small-group problem solving geared toward real life situations and nontraditional problems. Problem solving strategies include: draw a diagram, eliminate possibilities, make a systematic list, look for a pattern, guess and check, solve an easier related problem, subproblems, use manipulatives, work backward, act it out, unit analysis, use algebra, finite differences, and many others. Divergent thinking and technical communication skills of writing and oral presentation will be enhanced. The class is designed to teach students to think more effectively and vastly increase their problem solving ability. (CSU)

MATH 12 COLLEGE ALGEBRA
Units: 4
Prerequisite: Completion of MATH D with a grade of “C” or better, or placement by matriculation assessment process
Hours: 72 lecture
Study of algebra topics beyond Math D; including functions, graphs, logarithms, systems of equations, matrices, analytic geometry sequences, mathematical induction, and introduction to counting techniques. (CSU, UC—with unit limitation)

MATH 13 ELEMENTARY STATISTICS
Units: 4
Prerequisite: Two years of high school algebra or MATH D with a grade of “C” or better, or placement by matriculation assessment process
Hours: 72 lecture
Introduction to the basic concepts of statistics. Emphasis on statistical reasoning and application of statistical methods. Areas included: graphical and numerical methods of descriptive statistics; basic elements of probability and sampling; binomial, normal, Student’s t, and chi-square distributions; confidence intervals and hypothesis testing for one and two population means and proportions; chi-square tests for goodness-of-fit and independence; and linear regression and correlation. (CSU, UC—with unit limitation)

MATH 15 DISCRETE MATHEMATICS
Units: 4
Prerequisite: Completion of MATH 30 with a grade of “C” or better
Hours: 72 lecture
Study of set theory, relations and functions, logic, combinatorics and probability, algorithms, computability, matrix algebra, graph theory, recurrence relations, number theory including modular arithmetic. Various forms of mathematical proof are developed: proof by induction, proof by contradiction. (CSU, UC—with unit limitation)
MATH 16A CALCULUS FOR SOCIAL AND LIFE SCIENCES  
Units: 4  
Prerequisite: Three years of high school mathematics which includes two years of algebra; or placement by matriculation assessment process; or MATH 12 with grade of “C” or better  
Advisory: Not open to students with grade of “C” or better in MATH 30 or equivalent  
Hours: 72 lecture  
Review of functions, limits, differentiation and integration of algebraic functions, calculus for exponential and logarithmic functions, applications of calculus in social and life sciences. This course is not intended for students majoring in mathematics, engineering, physics, or chemistry. (CSU, UC—with unit limitation)

MATH 16B CALCULUS FOR SOCIAL AND LIFE SCIENCES  
Units: 4  
Prerequisite: Completion of MATH 16A or MATH 30 or equivalent with a grade of “C” or better  
Advisory: Trigonometry (MATH 8) is recommended. Not open to students with a grade of “C” or better in MATH 31 or equivalent  
Hours: 72 lecture  
Differentiation and integration of trigonometric functions, functions of several variables, partial derivatives, double integrals, introduction to differential equations, sequences and series, applications of calculus in the social and life sciences. (CSU, UC—with unit limitation)

MATH 17 CONCEPTS OF MATHEMATICS  
Units: 3  
Prerequisite: Intermediate algebra and one year of high school geometry or MATH D and B with grades of “C” or better, or placement by matriculation assessment process  
Hours: 54 lecture  
Exploration of mathematical patterns and relations, formulation of conjectures based on the explorations, proving (or disproving) the conjectures. Includes different problem solving techniques, number theory, probability, statistics, sequences and series, and geometry. Intended for students interested in elementary education. (CSU, UC—with unit limitation)

MATH 18 THE NATURE OF MATHEMATICS  
Units: 3  
Prerequisite: Two years of high school algebra or MATH D with a grade of “C” or better, or placement by matriculation assessment process  
Hours: 54 lecture  
Introduces students to the art and application of mathematics in the world around them. Topics include mathematical modeling, voting and apportionment, and mathematical reasoning with applications chosen from a variety of disciplines. Not recommended for students entering elementary school teaching or business. (CSU, UC—with unit limitation)

MATH 20 FINITE MATHEMATICS  
Units: 3  
Prerequisite: Completion of MATH D with grade of “C” or better, or placement by matriculation assessment process  
Hours: 54 lecture  
Review of functions; systems of equations; mathematics of finance; matrices and their applications; linear programming; introduction to probability and statistics; Markov Chains; and decision making. (CSU, UC—with unit limitation)

MATH 28 INDEPENDENT STUDY  
Units: 1-3  
Designed for students interested in furthering their knowledge at an independent study level in an area where no specific curriculum offering is currently available. Independent study might include, but is not limited to, research papers, special subject area projects, and research projects. May be taken four times for credit. See Independent Study page in catalog. (CSU, UC—with unit limitation)

MATH 29 PRE-CALCULUS MATHEMATICS  
Units: 4  
Prerequisite: Completion of MATH 8 with grade of “C” or better, or placement by matriculation assessment process  
Hours: 72 lecture  
Preparation for calculus. Study of polynomials, rational functions, exponential and logarithmic functions, trigonometric functions, systems of linear equations, matrices, determinants, rectangular and polar coordinates, conic sections, complex number systems, mathematical induction, binomial theorem, and sequences. Recommended for students who plan to take MATH 30. (CSU, UC—with unit limitation)

MATH 30 ANALYTICAL GEOMETRY AND CALCULUS  
Units: 4-5  
Prerequisite: Completion of MATH 8 and either MATH 12 or MATH 29 with grades of “C” or better, or placement by matriculation assessment process  
Hours: 72 lecture (4 units); 90 lecture (5 units)  
Introduction to differential and integral calculus. Content includes limits, continuity, differentiation and integration of algebraic, trigonometric, exponential, logarithmic and other transcendental functions; as well as application problems. (CSU, UC—with unit limitation)

MATH 31 ANALYTICAL GEOMETRY AND CALCULUS  
Units: 4-5  
Prerequisite: Completion of MATH 30 with a grade of “C” or better  
Hours: 72 lecture (4 units); 90 lecture (5 units)  
Continuation of MATH 30. Content includes techniques of integration, improper integrals, applications of integration, infinite series, parametric equations and polar coordinates. (CSU, UC—with unit limitation)
MATH 32 ANALYTICAL GEOMETRY AND CALCULUS  
Units: 4  
Prerequisite: Completion of MATH 31 with a grade of “C” or better  
Hours: 72 lecture  
Continuation of MATH 31. Vectors and analytic geometry in the plane and space; functions of several variables; partial differentiation, multiple integrals, and application problems; vector functions and their derivatives; motion in space; and surface and line integrals, Stokes’ and Green’s Theorems, and the Divergence Theorem. (CSU, UC)  

MATH 33 DIFFERENTIAL EQUATIONS AND LINEAR ALGEBRA  
Units: 6  
Prerequisite: Completion of MATH 31 with a grade of “C” or better  
Advisory: MATH 32 strongly recommended  
Hours: 108 lecture  
First and second order ordinary differential equations, linear differential equations, numerical methods and series solutions, Laplace transforms, modeling and stability theory, systems of linear differential equations, matrices, determinants, vector spaces, linear transformations, orthogonality, eigenvalues and eigenvectors. (CSU, UC—with unit limitation)  

MATH 42 BUSINESS CALCULUS  
Units: 4  
Prerequisite: Completion of MATH D with grade of “C” or better, or placement by matriculation assessment process  
Advisory: Completion of MATH 12 strongly recommended, especially for students who have not recently taken MATH D  
Hours: 72 lecture  
Introduction to differential and integral calculus, with particular emphasis on applications in the fields of business, economics, and social sciences. Includes: concepts of a function, limits, derivatives, integrals of polynomial, exponential and logarithmic functions, optimization problems, and calculus of functions of more than one variable. Not open to those with credit for MATH 30. (CSU, UC—with unit limitation)  

MATH 300 SELECTED TOPICS IN MATHEMATICS  
Units: 0.5-4  
Courses of study will cover topics relevant to the discipline. Topics will vary. Course content and unit credit to be determined by the division. May be offered as seminar, lecture, or lecture/laboratory classes. Students may repeat “300” courses within a discipline only when a topic is different from previously completed course. See Selected Topics page in catalog. (CSU, UC—with unit limitation)  

MATH 581 ARITHMETIC REVIEW  
Units: 4  
Advisory: Placement by matriculation assessment process  
Hours: 108 (54 lecture, 54 laboratory)  
Basic review of fundamental arithmetic operations with whole numbers, decimals, fractions, ratio and proportion, and percentages. (not degree applicable)  

MATH 582 PRE-ALGEBRA  
Units: 4  
Prerequisite: Completion of MATH 581 with a grade of “C” or better or placement by matriculation assessment process  
Hours: 108 (54 lecture, 54 laboratory)  
Integrates and utilizes algebraic concepts and skills, such as integers, algebraic equations, polynomials, radicals, factoring and graphing, as well as reviews whole numbers, decimals, fractions, ratio and proportions, exponential notation, percentages, basic geometry and problem solving. (not degree applicable)
**Mechatronics**  
(Formerly Computer Integrated Electronics)

**BUSINESS, APPLIED ACADEMICS, & PHYSICAL EDUCATION**
DEAN: Luis Sanchez  
ASSOCIATE DEAN: Darlene Jackson  
DIVISION OFFICE: B 3  
FACULTY: M. Halbern, L. Mather, T. Osladil  
LIAISON COUNSELORS: C. Axton, D. Quadros, C. West

Mechatronics is the study of electronics, mechanics, and computer control in one cohesive hands-on, project-based program. The field of Mechatronics includes robotics, industrial automation, industrial process control, and electromechanical systems. Mechatronics systems include ATMs and copy machines, elevators, medical diagnostic equipment, automated package handling, ski lifts, water processing facilities, industrial robots, and large-scale food and beverage manufacturing. There are associate degree and certificate options. More information can be found at the Sierra College Mechatronics Department website: https://www.realskillsrealjobs.com.

**MECHATRONICS TECHNOLOGY**  
A.A. OR A.S. DEGREE AND/OR CERTIFICATE
Successful completion of the curriculum in Mechatronics Technology prepares students for positions in businesses and industries that manufacture, utilize, or repair equipment incorporating electronics, mechanics, pneumatics, hydraulics, and programming. Students must fulfill major requirements and all associate degree requirements for the A.A./A.S. degree; see pages 42-43. A certificate is designed to provide career technical skills; it is not equivalent to an A.A. or A.S. degree.

**REQUIRED COURSES**  
**UNITS**
- MECH 4 Fundamentals of Mechatronics ................. 4  
- MECH 10 Fundamentals of Electronics .................. 4  
- MECH 14 Fabrication Techniques .......................... 2  
- MECH 25 Personal Computer Configuration and Repair .... 4  
- MECH 44 Mechatronic Processes and Materials .......... 2  
- MECH 54 Mechatronics System ......................... 4  
- MECH 90 Microcontroller Embedded Systems .............. 4  

**TOTAL UNITS REQUIRED: 24**

Recommended sequence of courses: MECH 4, MECH 10, MECH 14, MECH 25, MECH 44, MECH 54, MECH 90

**ELECTRO-MECHANICAL SKILLS CERTIFICATE**
Completion of the skills certificate provides students with the underlying principles and hands-on techniques of basic electronics and basic mechanics, thereby preparing them for entry-level electro-mechanical technician positions. Emphasis is on use of electronic test equipment for troubleshooting as well as tools and processes of manufacturing as applied to industrial materials. A skills certificate is designed to provide career technical skills; it is not equivalent to an A.A. or A.S. degree.

**REQUIRED COURSES**  
**UNITS**
- MECH 1 The Science of Electronics .......................... 3  
- MECH 10 Fundamentals of Electronics .................. 4  
- MECH 44 Mechatronic Processes and Materials .......... 2  

**TOTAL UNITS REQUIRED: 9**

**Mechatronics Courses**

**MECH 1 THE SCIENCE OF ELECTRONICS**  
Formerly known as CIE 1  
Units: 3  
Hours: 54 lecture  
Survey of electronics technology presented in the context of the principles of science. Application of the scientific method to topics ranging from basic circuits to microprocessors, including electronic music, robotics, electric vehicles, fiber optics, semiconductors, and medical imaging. Scientific, historical, political, and economic connections to electronics technology. (CSU)

**MECH 4 FUNDAMENTALS OF MECHATRONICS**  
Formerly known as CIE 4  
Units: 4  
Hours: 108 (54 lecture, 54 laboratory)  
Introduction to mechatronics, combining electronics, mechanics, pneumatics, and hydraulics, under computer control as applied to robotics and automation. Presented through hands-on, project-based experiments that demonstrate industrial applications. (CSU)

**MECH 8 INTRODUCTION TO ELECTRONICS**  
Formerly known as CIE 8  
Units: 3  
Hours: 54 lecture  
General principles, concepts, and terminology of computer integrated electronics. Course material is at an elementary technical and mathematical level. (CSU)

**MECH 10 FUNDAMENTALS OF ELECTRONICS**  
Formerly known as CIE 10  
Units: 4  
Hours: 126 (54 lecture, 72 laboratory)  
A fundamental study of electronic devices, circuits, and systems as applied to audio, video, robotics, and computers. Presented through hands-on, project-based experiments. (CSU)
MECH 14 FABRICATION TECHNIQUES
Formerly known as CIE 14
Units: 2
Hours: 72 (18 lecture, 54 laboratory)
Introductory course covering the function and construction of electronic projects and equipment. Includes the design and fabrication of enclosures, single and double-sided printed circuit boards, safe use of power and hand tools, through hole and surface mount soldering, rework techniques, and wiring. (CSU)

MECH 25 PERSONAL COMPUTER CONFIGURATION AND REPAIR
Formerly known as CIE 25/CIS 25/CST 25
Units: 4
Hours: 108 (54 lecture, 54 laboratory)
Concentrated study of personal computer hardware and operating system software installation, configuration, upgrading, troubleshooting, and repair. Hardware topics include motherboards, peripheral cards, communication protocols and cabling. Software topics include basic input output systems (BIOS) and power on system test (POST) procedures, disk operating system (DOS) and Windows operation essentials, local area network (LAN) fundamentals, and troubleshooting programs. (CSU)

MECH 28 INDEPENDENT STUDY
Formerly known as CIE 28
Units: 1-3
Hours: 54 laboratory hours per unit
Designed for students interested in furthering their knowledge at an independent study level in an area where no specific curriculum offering is currently available. Independent study might include, but is not limited to, research papers, special subject area projects, and research projects. May be taken four times for credit. See Independent Study page in catalog. (CSU)

MECH 44 MECHATRONIC PROCESSES AND MATERIALS
Formerly known as CIE 44
Units: 2
Hours: 72 (18 lecture, 54 laboratory)
Application of tools and materials required for the design, installation and repair of mechatronic systems. Each student will fabricate a final project applying system-based mechatronic principles and skills. (CSU)

MECH 54 MECHATRONICS SYSTEM
Formerly known as CIE 54
Units: 4
Prerequisite: Completion of MECH 4 with grade of “C” or better or equivalent experience
Hours: 108 (54 lecture, 54 laboratory)
Full integration of mechatronic principles into complete closed-loop systems such as automated production equipment and industrial robots. Topics include sensors, optical encoders, analog-to-digital and digital-to-analog conversion, closed-loop AC and DC motor control, hydraulic power concepts, hydraulic motors, pneumatic and hydraulic valves and actuators and fluid power computer simulation tools. (CSU)

MECH 90 MICROCONTROLLER EMBEDDED SYSTEMS
Formerly known as CIE 90
Units: 4
Advisory: Completion of MECH 10 and MECH 14 or equivalent recommended
Hours: 108 (54 lecture, 54 laboratory)
Study of microcontroller based embedded systems using industry standard hardware and development software. Topics and laboratory exercises covering system architecture, applications of embedded systems, real world interfacing, software development, test and troubleshooting techniques. (CSU)

MECH 95 INTERNSHIP IN MECHATRONICS
Formerly known as CIE 95
Units: 0.5-4
Designed for advanced students to work in an area related to their educational or occupational goal. Provides new on-the-job technical training under the direction of a worksite supervisor, allowing students to expand knowledge and skills in the chosen field. Mandatory orientation session and faculty approval to determine eligibility. Students may earn up to a total of 16 units in internship courses (any course numbered 95 and PDEV 94). (CSU—with unit limitation)

MECH 300 SELECTED TOPICS IN MECHATRONICS
Formerly known as CIE 300
Units: 0.5-4
Courses of study will cover topics relevant to the discipline. Topics will vary. Course content and unit credit to be determined by the division. May be offered as seminar, lecture, or lecture/laboratory classes. Students may repeat “300” courses within a discipline only when a topic is different from previously completed course. See Selected Topics page in catalog. (CSU)

MECH 400 SELECTED TOPICS IN MECHATRONICS
Formerly known as CIE 400
Units: 0.5-4
Courses of study will cover topics relevant to the discipline. Topics will vary. Course content and unit credit to be determined by the division. May be offered as seminar, lecture, or lecture/laboratory classes. Students may repeat “400” courses within a discipline only when a topic is different from previously completed course. See Selected Topics page in catalog. (not transferable)
Music

LIBERAL ARTS
DEAN: Debra Sutphen
ASSOCIATE DEAN: Rebecca Bocchicchio
DIVISION OFFICE: W 107
FACULTY: G. McLaughlin, J. Stave Viemeister
liaison COUNSELORS: E. Farrelly, V. Rogers

It is the mission of the Music Department to provide for every level of student and community member an affordable and accessible musical education in an atmosphere that embraces academic excellence, diversity, and innovation. Whether students are interested in musical career and technical training, transfer to a four-year institution, or lifelong learning, the Music Department will help foster a deeper awareness of the value that music plays in our students and in our community. The Sierra College Music Department encourages students and community members alike to follow their musical passion by developing their musical skills so they can make significant musical contributions to their lives and communities.

TRANSFER MAJOR REQUIREMENTS in Music are available in the Counseling Center. In all cases, students should consult with a counselor for specific transfer requirements.

MUSIC
A.A. OR A.S. DEGREE
The Music degree includes vocal and instrumental components, as well as courses in music, history, and theory. The general program is designed to provide students with a foundation in music theory and history. Performance opportunities in both vocal and instrumental music enhance a student's understanding and skill level.

The Music degree prepares students for careers in music performance, education, composition, conducting, retail music industry, music publishing, and music therapy. The degree also prepares students for further study at a four-year institution. Students must fulfill major requirements and all associate degree requirements for the A.A./A.S. degree; see pages 42-43.

REQUIRED COURSES: UNITS
MUS 3A Ear Training I ........................................... 2
MUS 3B Ear Training II ......................................... 2
MUS 6A Music Theory I ........................................ 3
MUS 6B Music Theory II ....................................... 3
MUS 9A Music Theory III .................................... 3
MUS 9B Music Theory IV .................................... 3
MUS 12A Survey of Music History and Literature to 1750 . . . 3
MUS 12B Survey of Music History and Literature from 1750 to Present ........................................ 3

PLUS 4 ADDITIONAL UNITS FROM THE FOLLOWING:
MUS 40A Beginning Piano I ................................... 2
MUS 40B Beginning Piano II .................................. 2
MUS 40C Intermediate Piano I ............................... 2
MUS 40D Intermediate Piano II .............................. 2

MUS 2 MUSIC APPRECIATION
Units: 3
Hours: 54 lecture
Foundation course recommended for all students seeking a basis for the understanding and enjoyment of music. Discussion of music elements, orchestral instruments, vocabulary, and historical styles and periods using time-proven masterworks. (CSU, UC)

MUS 3A EAR TRAINING I
Units: 2
Prerequisite: Completion of MUS 10 with grade of “C” or better or equivalent knowledge of musical notation
Advisory: Completion of MUS 40A with grade of “C” or better or equivalent piano skill
Hours: 54 (18 lecture, 36 activity)
Develops skills used for musical dictation of rhythms, intervals, chords and melodies; plus sight singing of short, simple diatonic melodies. (CSU, UC)

MUS 3B EAR TRAINING II
Units: 2
Prerequisite: Completion of MUS 3A with grade of “C” or better or passing score on examination
Advisory: Completion of MUS 40A with grade of “C” or better or equivalent piano skill
Hours: 54 (18 lecture, 36 activity)
Continuation of MUS 3A through continued study of the aspects of aural recognition and sight singing. Two-part dictation, recognition of augmented and diminished triads and seventh chords. (CSU, UC)

MUS 4A ADVANCED EAR TRAINING I
Units: 2
Prerequisite: Completion of MUS 3B, or passing score on examination
Advisory: Completion of MUS 40B or equivalent piano skill
Hours: 54 (18 lecture, 36 activity)
Advanced sight singing, chord recognition and formal analysis. Melodic dictation with modulation. Introduction of four-part harmonic dictation. (CSU, UC)
MUS 4B ADVANCED EAR TRAINING II
Units: 2
Prerequisite: Completion of MUS 4A or passing score on examination
Advisory: Completion of MUS 40B or equivalent piano skill
Hours: 54 (18 lecture, 36 activity)
Advanced sight singing, melodic dictation, harmonic dictation, chord recognition. Introduces listening to and understanding atonal music. (CSU, UC)

MUS 6A MUSIC THEORY I
Units: 3
Prerequisite: Completion of MUS 10 with grade of “C” or better or equivalent knowledge of music notation
Advisory: Completion of MUS 40A with grade of “C” or better or equivalent piano skill; completion of or concurrent enrollment in MUS 3A
Hours: 54 lecture
Examination of topics in music theory; incorporates the following concepts: music notation, tonality, intervals, transposition, chords construction, non-chord tones, writing melody, music textures. (CSU, UC)

MUS 6B MUSIC THEORY II
Units: 3
Prerequisite: Completion of MUS 6A with grade of “C” or better or passing score on examination
Advisory: Completion of MUS 40B with grade of “C” or better or equivalent piano playing skill; Completion of or concurrent enrollment in MUS 3B
Hours: 54 lecture
Builds on the concepts introduced in MUS 6A. In addition, through writing and analysis, includes secondary dominants, modulation, binary and ternary forms. Diminished seventh and non-dominant chords will be addressed. (CSU, UC)

MUS 7 INTRODUCTION TO MIDI (MUSICAL INSTRUMENT DIGITAL INTERFACE)
Units: 3
Advisory: Completion of MUS 10 or 40A or equivalent keyboard skills and ability to read music notation
Hours: 54 lecture
Introduction to synthesizers, sequencing and computer generated music notation. Covers signal flow, assigning sounds to tracks, editing and mixing sequences, and notating music on the computer. (CSU)

MUS 9A MUSIC THEORY III
Units: 3
Prerequisite: Completion of MUS 6B with grade of “C” or better or passing score on examination
Advisory: Completion of MUS 40C with grade of “C” or better or equivalent piano skills; completion of or concurrent enrollment in MUS 4A
Hours: 54 lecture
Builds on the concepts introduced in MUS 6B. In addition, through writing and analysis, includes chromatic harmonies, altered chords, remote modulations, introductory rhythmic counterpoint, 18th century polyphony, inventions and fugues, variation techniques, sonata and rondo forms. (CSU, UC)

MUS 9B MUSIC THEORY IV
Units: 3
Prerequisite: Completion of MUS 9A with grade of “C” or better or passing score on examination
Hours: 54 lecture
Study of post-romantic, twentieth century and current techniques including extended and chromatic harmonies, foreign modulations, nonfunctional harmonies, atonality, twelve-tone technique, set theory, use of electronic resources and current trends. (CSU, UC)

MUS 10 MUSIC FUNDAMENTALS
Units: 3
Hours: 54 lecture
An elementary course designed to provide the basic musical skills, knowledge, and competencies necessary for reading or listening to music. Covers elements of music, scales, notation, rhythm, and sight reading. Note: Not open to students who are taking or have successfully completed MUS 3A-3B or MUS 6A-6B. (CSU, UC—with unit limitation)

MUS 11 INTRODUCTION AND HISTORY OF JAZZ
Units: 3
Hours: 54 lecture
Introduction to the history of jazz from traditional European, African and Latin origins to various contemporary and fusion styles. Contributions of great jazz artists studied. Focus placed on developing critical skills applicable to listening to jazz arrangements and improvisation. (CSU, UC)

MUS 12A SURVEY OF MUSIC HISTORY AND LITERATURE TO 1750
Units: 3
Hours: 54 lecture
Study of the history of Western art music from antiquity through the Baroque Era including the influences of the Catholic Church, contributions of various personalities and cultures with selected readings, recordings, and score study. (CSU, UC)
MUS 12B SURVEY OF MUSIC HISTORY AND LITERATURE FROM 1750 TO PRESENT
Units: 3
Hours: 54 lecture
Study of the history of Western art music from the end of the Baroque era to the present, including contributions of other cultures with selected readings and recordings. (CSU, UC)

MUS 13 INTRODUCTION TO MUSIC: HISTORY OF ROCK AND ROLL
Units: 3
Hours: 54 lecture
History of Rock and Roll music in social, political, cultural, and economic context. Includes guided listening and video presentations to show the evolution of Rock from its roots to current stylistic trends. (CSU, UC)

MUS 14 INTRODUCTION TO COMMERCIAL MUSIC PRODUCTION
Units: 3
Advisory: Completion of MECH 10 with grade of “C” or better or equivalent
Hours: 72 (54 lecture, 18 laboratory)
Emphasis on audio concepts including basic and essential audio theory, development of critical listening skills, and perception of audio in the form of acoustic and electrical energy. Discussion and exercises in signal flow, recording facility configuration, sound reinforcement system set-up and working within different acoustic environments. Introductory training in equipment selection and placement as well as basic tracking techniques will be offered. (CSU)

MUS 15 AUDIO RECORDING
Units: 3
Prerequisite: Successful completion of MUS 14 or equivalent
Advisory: Completion of CIE 10 recommended
Hours: 72 (54 lecture, 18 laboratory)
Studio production techniques with added training on close miking of individual instruments. Coverage of analogue and digital multitrack recording techniques. Increased opportunity for practical implementation of signal processing techniques and use of related equipment such as multi FX and dynamics processors. Small group multitrack projects will be required. (CSU)

MUS 20 MUSIC FOR CHILDREN
Also known as HDEV 16
Units: 3
Hours: 54 lecture
Principles of teaching and using music in preschool, elementary school, and recreational programs. Problems, methods, and materials in singing, rhythms, creative music, reading, and listening. Recommended for those who use music with groups of children. (CSU)

MUS 25 INTRODUCTION TO MUSIC BUSINESS
Units: 3
Advisory: Completion of BUSI 20
Hours: 54 lecture
Focus on the business side of the music industry including marketing, publishing, copyrights and licensing, dealing with unions, guilds, artists and managers. Following a song from inception to production including recordings, contracts and merchandising. Exploration of non-performance career options in music. (CSU)

MUS 28 INDEPENDENT STUDY
Units: 1-3
Designed for students interested in furthering their knowledge at an independent study level in an area where no specific curriculum offering is currently available. Independent study might include, but is not limited to, research papers, special subject area projects, and research projects. May be taken four times for credit. See Independent Study page in catalog. (CSU, UC—with unit limitation)

MUS 37 CHAMBER MUSIC ENSEMBLES
Units: 1.5
Prerequisite: Completion of MUS 6A or equivalent
Hours: 36 (18 lecture, 18 activity)
A workshop course designed for the advanced musician who desires practical experience in performing classical and contemporary music. Particular emphasis on technique, tone production, phrasing, and musicianship. May be taken four times for credit. (CSU, UC)

MUS 39 VOICE
Units: 2
Hours: 54 (18 lecture, 36 activity)
Emphasis on the development of individual singer’s voice. Basic vocal techniques of breathing and mouth formation of vowels. Solo performances in class. Concert attendance required. Oriented for students interested in the pursuit of artistic singing through “serious” music. May be taken four times for credit. (CSU, UC)

MUS 40A BEGINNING PIANO I
Units: 2
Prerequisite: Eligibility for ENGL 50 or ENGL N or equivalent
Hours: 54 (36 lecture, 18 laboratory)
Beginning instruction in the fundamentals of playing piano. Note reading and basic playing techniques are introduced. Designed to develop musicianship and facility. May be taken two times for credit. (CSU, UC)
MUS 40B BEGINNING PIANO II
Units: 2
Prerequisite: Completion of MUS 40A with grade of “C” or better or equivalent piano skill with permission of instructor
Hours: 54 (36 lecture, 18 laboratory)
Continuation of MUS 40A using music drawn from intermediate levels. Ensemble playing, sight-reading, chord inversions, and repertoire. May be taken two times for credit. (CSU, UC)

MUS 40C INTERMEDIATE PIANO I
Units: 2
Prerequisite: Completion of MUS 40B with grade of “C” or better or equivalent with permission of the instructor
Hours: 54 (36 lecture, 18 laboratory)
Continuation of MUS 40B, with music drawn from intermediate levels. Ensemble playing, sight-reading and harmonization skills and knowledge. Individual needs and interests considered. May be taken two times for credit. (CSU, UC)

MUS 40D INTERMEDIATE PIANO II
Units: 2
Prerequisite: Completion of MUS 40C with grade of “C” or better or equivalent with permission of instructor
Hours: 54 (36 lecture, 18 laboratory)
Continuation of MUS 40C, with music drawn from intermediate, late intermediate to early advanced levels. Ensemble playing, sight-reading, harmonization and improvisation developed. Individual needs and interests considered. May be taken two times for credit. (CSU, UC)

MUS 42 CHAMBER SINGERS
Units: 2
Prerequisite: Admission by audition including sight-singing & aural skills assessment
Hours: 54 (36 lecture, 18 laboratory)
Explores the literature and performance practices for small vocal ensembles from the Renaissance to the present. Public performances, festivals, and field trips required. May be taken four times for credit. (CSU, UC)

MUS 47 VOCAL JAZZ ENSEMBLE
Units: 2
Advisory: Previous choral experience or equivalent
Hours: 54 (18 lecture, 36 activity)
Study and performance of modern and vocal jazz styles, tone production, and rhythms. Public performances and field trips required. May be taken four times for credit. (CSU, UC)

MUS 48 CONCERT CHOIR
Units: 2
Advisory: Students will audition to identify vocal type
Hours: 54 (18 lecture, 36 activity)
A variety of choral experience performing repertoire, both sacred and secular, from the medieval, baroque, classical, romantic and modern periods of music history. Focuses on performance practice, musical style and poetic interpretation. May be taken four times for credit. (CSU, UC)

MUS 49 JAZZ IMPROVISATION AND PERFORMANCE PRACTICE
Units: 2
Advisory: Three to four years experience on instrument or equivalent
Hours: 54 (18 lecture, 36 activity)
Fundamentals of jazz improvisation, including chord-scale application. Analysis of diverse styles of the great jazz artists through recordings and transcriptions. Development of a unique improvisational style as applied to performance. May be taken four times for credit. (CSU, UC)

MUS 50 WIND ENSEMBLE
Units: 2
Advisory: Three to four years experience on instrument or equivalent
Hours: 54 (18 lecture, 36 activity)
Training in the interpretation and performance of standard band literature, with emphasis on sight reading new band music. Advanced students given the opportunity for solo work. At least one public performance given each semester. May be taken four times for credit. (CSU, UC)

MUS 51A APPLIED MUSIC I
Units: 1-2
Prerequisite: Three to four years experience on instrument or equivalent
Hours: 54 laboratory
Individualized study of departmentally approved classical performance curriculum, evaluated through a juried performance and including a departmental recital. (CSU, UC)

MUS 51B APPLIED MUSIC II
Units: 1-2
Advisory: Completion of MUS 51A or equivalent recommended
Hours: 54 laboratory
Individualized study of departmentally approved classical performance curriculum, evaluated through a juried performance and including a departmental recital. (CSU, UC)
**MUS 51C APPLIED MUSIC III**
Units: 1-2
Advisory: Completion of MUS 51B or equivalent recommended
Hours: 54 laboratory
Individualized study of departmentally approved classical performance curriculum, evaluated through a juried performance and including a departmental recital. (CSU, UC)

**MUS 51D APPLIED MUSIC IV**
Units: 1-2
Advisory: Completion of MUS 51C or equivalent recommended
Hours: 54 laboratory
Individualized study of departmentally approved classical performance curriculum, evaluated through a juried performance and including a departmental recital. (CSU, UC)

**MUS 52 CHAMBER ORCHESTRA**
Units: 2
Prerequisite: Three to four years experience on instrument or equivalent
Hours: 54 (18 lecture, 36 activity)
Training in the interpretation and performance of standard orchestral literature, with emphasis on sight reading. Advanced students given the opportunity for solo work. At least one public performance each semester. May be taken four times for credit. (CSU, UC)

**MUS 54 SYMPHONIC BAND**
Units: 2
Advisory: Three to four years experience on instrument or equivalent
Hours: 54 (18 lecture, 36 activity)
Training in the interpretation and performance of standard band literature, with emphasis on sight reading new band music. Advanced students given the opportunity for solo work. At least one public performance each semester. May be taken four times for credit. (CSU, UC)

**MUS 57A BEGINNING GUITAR**
Units: 1.5
Hours: 36 (18 lecture, 18 activity)
Learning fundamentals of the guitar: components of instrument, reading music notations, key structure and chord structure (open position), and finger picking. Students required to supply own instruments. (CSU, UC)

**MUS 57B BEGINNING GUITAR**
Units: 1.5
Prerequisite: Completion of MUS 57A or equivalent
Hours: 36 (18 lecture, 18 activity)
Further study of guitar fundamentals, including advanced finger picking and strumming techniques; two and three part note reading; and expanded notation and rhythmic development. Students required to supply own instruments. (CSU, UC)

**MUS 58A INTERMEDIATE GUITAR**
Units: 1.5
Prerequisite: Completion of MUS 57B or equivalent
Hours: 36 (18 lecture, 18 activity)
Learning chromatics, chord structure in closed positions, keyboard harmony as applied to songs, and major and minor scales. These techniques applied to songs in group performance. Students required to supply own instruments. (CSU, UC)

**MUS 58B INTERMEDIATE GUITAR**
Units: 1.5
Prerequisite: Completion of MUS 58A or equivalent
Hours: 36 (18 lecture, 18 activity)
Further study of chord melody construction. Learning moveable chords and application to song types, including 9th, 11th, and 13th chords. Students required to supply own instrument. (CSU, UC)

**MUS 60 SPECIAL TOPICS: MUSIC SURVEY AND PERFORMANCE**
Units: 1-2
Prerequisite: Ability to read music
Hours: 27 (9 lecture, 18 activity) per unit
In-depth study and performance of selected styles, composers, and forms from the Renaissance, Baroque, Classical, Romantic, and/or Contemporary Periods. May be repeated for credit under different subtitles. (CSU, UC—with unit limitation)

**MUS 61 SPECIAL TOPICS: JAZZ SURVEY AND PERFORMANCE**
Units: 2
Advisory: Ability to read music recommended
Hours: 54 (18 lecture, 36 activity)
In-depth study and performance of selected jazz artists and styles: swing, be-bop, Dixieland, jazz/rock, fusion, and the current idioms. May be repeated for credit under different subtitles. (CSU, UC—with unit limitation)

**MUS 300 SELECTED TOPICS IN MUSIC**
Units: 0.5-4
Courses of study will cover topics relevant to the discipline. Topics will vary. Course content and unit credit to be determined by the division. May be offered as seminar, lecture, or lecture/laboratory classes. Students may repeat “300” courses within a discipline only when a topic is different from previously completed course. See Selected Topics page in catalog. (CSU, UC—with unit limitation)
MUS 600 REPERTOIRE OF MUSICAL THEATRE
Units: 2
Prerequisite: Admission by audition including sight singing and aural skills assessment
Hours: 54 (18 lecture, 36 activity)
A variety of Broadway Musical repertoire ranging from solo and ensemble music from early musicals to contemporary works. Some sacred as well as secular music will be studied and prepared for public performances. May be taken four times for credit.(pass/no pass grading) (not degree applicable)

MUS 810 SELECTED TOPICS IN MUSIC
Units: 0
Hours: 8 to 54 lecture as scheduled
Study of selected styles and periods of music. Includes discussion of musical elements, composition, orchestration, vocabulary and history for the selected topics. May be repeated. (noncredit)

Natural Science

SCIENCES & MATHEMATICS
DEAN: Heather Roberts
ASSOCIATE DEAN: Michael Kane
DIVISION OFFICE: V 211

NATURAL SCIENCE
A.A. OR A.S. DEGREE
The Natural Science degree is designed for students who are pursuing transfer majors in the Natural Sciences, including Astronomy, Biological Science, Chemistry, Geography, Geology, Physics, and related disciplines. Students must fulfill program requirements and all associate degree requirements for the A.A./A.S. degree; see pages 42-43.

REQUIRED COURSES
18 UNITS FROM THE FOLLOWING:
AGRI 198 Food, Society & the Environment ................. 3
AGRI 221 Introduction to Soil Science .................. 3
ANTH 1 Physical Anthropology ......................... 3
ANTH 1L Physical Anthropology Laboratory ........ 1
ANTH 10 Introduction to Forensic Anthropology ........ 3
ASTR 2 Introduction to Planetary Systems ................ 3
ASTR 5 Introduction to Stars, Galaxies, and the Universe 3
ASTR 10 Elementary Astronomy ....................... 3
ASTR 11 Observational Astronomy .................... 1
ASTR 14 Astrophotography and Imaging ................. 1
BIOL 1 General Biology ................................ 4
BIOL 2 Botany ........................................ 4.5
BIOL 3 General Zoology ................................ 4
BIOL 4 Microbiology .................................. 5
BIOL 5 Human Anatomy ................................ 4
BIOL 6 Human Physiology ................................ 5
BIOL 7A Principles of Human Anatomy ................. 2.5
BIOL 7B Principles of Human Anatomy ................. 2.5
BIOL 8A Microbiology .................................. 2.5
BIOL 8B Microbiology .................................. 2.5
BIOL 10 Introduction to Biology ....................... 3
BIOL 11 Concepts of Biology .......................... 4
BIOL 14 Natural History, Ecology and Conservation . 4
BIOL 15 Marine Biology ................................ 4
BIOL 21 Horticultural Plant Science (also AGRI 156) . 4
BIOL 22 Introduction to Botany ....................... 4
BIOL 24 Wildland Trees & Shrubs (Dendrology) (also AGRI 163) 4
BIOL 33 Introduction to Zoology ..................... 4
BIOL 44 Introduction to Microbiology .................. 3
BIOL 55 General Human Anatomy & Physiology .... 4
BIOL 56 Biology: A Human Perspective .............. 3
BIOL 56L Biology: A Human Perspective (Laboratory) 1
CHEM 1A General Chemistry ......................... 5
CHEM 1B General Chemistry ......................... 5
CHEM 2A Introduction to Chemistry ................... 5
CHEM 2B Introduction to Chemistry ................... 5
CHEM 3A General Chemistry ......................... 3
CHEM 3B General Chemistry ......................... 3
CHEM 5 Chemistry—Quantitative Analysis ............. 4
CHEM 12A Organic Chemistry ......................... 5
CHEM 12B Organic Chemistry ......................... 5
ESCI 1 Physical Geology ................................ 3
ESCI 1L Physical Geology Laboratory ............... 1
ESCI 2 California Geology ............................ 3
ESCI 3 Historical Geology ............................. 3
ESCI 3L Historical Geology Laboratory ............. 1
ESCI 6 Introduction to Minerals & Rocks ............. 3
ESCI 10 Introduction to Earth Science ............... 3
ESCI 10L Introduction to Earth Science Laboratory .. 1
ESCI 14 Natural Disasters ................................ 3
ESCI 15 Introduction to Oceanography ............... 3
ESCI 15L Introduction to Oceanography Laboratory .. 1
ESS 10 Conservation of Natural Resources ............. 3
GEOG 1 Physical Geography .......................... 3
GEOG 1L Physical Geography Laboratory ........... 1
GEOG 4 Weather and Climate ......................... 3
INT 1 The Environment & the Human Impact ......... 3
MATH 8 Trigonometry .................................. 4
MATH 12 College Algebra ................................ 4
MATH 13 Elementary Statistics ....................... 4
MATH 16A Calculus for Social & Life Sciences ....... 4
MATH 16B Calculus for Social & Life Sciences ....... 4
MATH 29 Pre-Calculus Mathematics .................. 4
MATH 30 Analytical Geometry & Calculus ............ 4-5
MATH 31 Analytical Geometry & Calculus ............ 4-5
MATH 32 Analytical Geometry & Calculus ............ 4
MATH 33 Differential Equations & Linear Algebra ... 6
MATH 42 Business Calculus ......................... 4
PHYS 2A General Physics ................................ 4
PHYS 2B General Physics ................................ 4
PHYS 4A Principles of Physics: Mechanics .......... 5
PHYS 4B Principles of Physics: Electricity and Magnetism 4
PHYS 4C Principles of Physics: Heat, Waves and Modern Physics 4
PHYS 10 Basic Concepts in Physics ................... 3
Nursing

SCIENTES & MATHEMATICS
DEAN: Heather Roberts
ASSOCIATE DEAN: Cheryl Kenner
DIVISION OFFICE: V 211
AREA OFFICE: Room 101, Roseville Gateway Center, Phone (916) 781-6220
FACULTY: S. Bateson, D. Clifton, M. Feldscher, D. Johnson, S. Pokorney, N. Schwab
LIAISON COUNSELORS: T. Maddux, N. Martinis, S. Muraki

Students completing the Registered Nursing Program earn an A.S. or A.A. Degree in Registered Nursing. In order to receive complete and accurate information concerning the nursing programs, students are urged to first read the information on the Sierra College website carefully, and then seek further information or clarification from the nursing department or counseling staff as necessary.

Baccalaureate and graduate nursing programs in four-year colleges and universities differ widely in transfer and credit-granting policies, requirements, and course offerings. Students planning on transferring to obtain a baccalaureate degree in nursing should obtain appropriate college catalogs.

Nursing Assistant Courses

NRSA 3 PRECERTIFICATION NURSING ASSISTANT TRAINING
Units: 5.5
Prerequisite: Completion of ENGL 50 and ENGL A, or ENGL N, with grades of "C" or better or placement by matriculation assessment process; or completion of ESL 540W, 540R, 25G, and 25L with grades of "C" or better, or placement by ESL matriculation assessment process
Hours: 189 (54 lecture, 135 laboratory)
Introduction to nursing practice based on the humanistic philosophy of Abraham Maslow. Includes basic skills necessary to assist in satisfying the patient’s physical, psychological, social, and cultural needs. Students must be fingerprinted and submit documentation related to received conviction; certification may be denied. Students must meet regulatory requirements for class attendance, health clearance, background check clearance, and valid social security number to participate in the course. Upon successful completion, students will be eligible to take the State of California Certification Examination to become a Nursing Assistant qualified for employment in an acute or long-term health care facility. Testing and certification fees are required. (letter grade only) (not transferable)

Nursing, Registered

Completion of the Associate Degree Nursing Program qualifies the student to take the National Council of State Boards of Nursing Licensure Examination (NCLEX-RN). Upon passing the Exam, registered nurses are eligible to work in a variety of settings within the health care system as entry level staff nurses. The curriculum, approved by the California State Board of Registered Nursing, consists of both nursing and related general education courses, plus additional general education degree requirements. The nursing courses include theory classes and supervised concurrent clinical practice in local health care agencies. Some clinical practice evenings, nights, and weekends may be assigned.

At the expense of the student, a physical exam and proof of freedom of communicable disease and/or immunizations for the protection of the student and patients are required upon admission and prior to the first day of class. Students must also purchase an approved uniform and instructional materials required to achieve program objectives, maintain Basic Life Support certificate from the American Heart Association designated for Healthcare Providers, and be responsible for transportation to and from clinical facilities. Drug testing and background screening are required. Readiness/assessment testing may be required.

Licensed vocational nurses and others with previous nursing education and/or experience may receive credit and/or seek advanced placement in the program (see below). In order to be a graduate of the program and receive an associate degree
in Registered Nursing, all program and A.A. or A.S. degree requirements must be met.

Students who complete the nursing and general education program courses (listed below) without completing the additional degree requirements (listed below) may take the Licensure Examination as NON-GRADUATES, but these students are not graduates of the program and do not receive degrees. To obtain an associate degree in nursing, students who have baccalaureate or higher degrees are only required to complete the course work required for completion of the registered nursing program, including prerequisites and nursing course work. These students will not be required to complete any other courses required by the college for an associate degree.

Upon applying to the state for examination and licensure, students must be fingerprinted and submit documentation related to any received conviction; licensure may be denied. In order to receive complete and accurate information concerning the nursing programs, students are urged to first read the information on the Sierra College website carefully, and then seek further information or clarification from the nursing department or counseling staff as necessary.

**REGISTERED NURSING**

**A.A. OR A.S. DEGREE**

Students must be admitted to the Associate Degree Nursing Program before enrolling in the registered nursing courses. The registered nursing courses must be completed (or challenged) in sequence.

**ADMISSION REQUIREMENTS:**

All application packets are evaluated for completeness and adequate qualification. Application packets that are incomplete do not meet the requirements and therefore are not considered for admission. A complete application packet consists of fulfillment of all prerequisite courses, a Basic Life Support (BLS) certificate from the American Heart Association designated for healthcare providers, demonstrated reading proficiency per the Sierra College website carefully, and then seek further information or clarification from the nursing department or counseling staff as necessary.

**COURSES REQUIRED FOR PROGRAM COMPLETION AND DEGREE**

(All courses must be completed with grades of “C” or better)

**PROGRAM REQUIREMENTS:**

* ENGL 1A Introduction to Composition
* MATH A Elementary Algebra OR one of the following:
  a. MATH D Intermediate Algebra
  b. MATH 12 College Algebra
  c. MATH 16A Calculus for Social and Life Sciences
  d. MATH 16B Calculus for Social and Life Sciences
  e. MATH 29 Pre-Calculus Mathematics
  f. MATH 30 Analytical Geometry and Calculus
  g. MATH 31 Analytical Geometry and Calculus
  h. MATH 42 Business Calculus
  i. Two semesters of high school algebra or higher completed with grades of C or better
* BIOL 4 or 8A/BB Microbiology **
* BIOL 5 or 7A/7B Human Anatomy **
* BIOL 6 Human Physiology **
* NUTF 10 Nutrition **
* PSYC 1 Introduction to Psychology
* HDEV 1 Human Development

**COMM 1 Fundamentals of Public Speaking**

**SOC 1 Introduction to Sociology OR**

**ANTH 2 Cultural Anthropology**

All selected applicants are given provisional acceptance pending successful completion of the Test of Essential Academic Skills (TEAS) with a cumulative score of 67% or higher, clear background check and drug screen, completion of health assessment by physician or nurse practitioner stating the applicant is clear to perform the required duties without restriction.

* Prerequisites required before entry into the Registered Nursing Program.

**** Courses must be completed within seven years of entrance into program.

**REGISTERED NURSING COURSES REQUIRED FOR PROGRAM AND DEGREE:**

(Students will be assigned to Sequence 1 or Sequence 2)

Sequence 1:

NRSR 10 Introduction to Nursing and the Nursing Process... 10
NRSR 12 Nursing the Adult with Common/Remedial Health Problems .............................. 10
NRSR 15 Nursing Management of Clients through the Life Cycle +NRSR 19 Nursing Management-Multiple Patients with Complex Health Problems .............................. 11

Sequence 2: .......................................................... 11
NRSR 21 Nursing Fundamentals and Geriatric Nursing ........ 11
NRSR 22 Medical Surgical I and Pediatric Nursing ............................ 11
NRSR 23 Medical Surgical II and Mental Health Nursing ........ 11
+NRSR 24 Advanced Medical Surgical and Maternal-Newborn Nursing .............................. 11

+ NRSR 19 or NRSR 24 may count for the registered nursing requirements as well as the Multicultural Studies requirement for an A.A./A.S. degree.
Students must fulfill general education requirements for the A.A./A.S. degree; see pages 42-43. Students already holding an associate degree in another major do not need to complete the general education requirements listed immediately above, unless they wish to obtain an A.A. or A.S. degree in Registered Nursing.

**PLACEMENT POLICY FOR ASSOCIATE DEGREE NURSING PROGRAM:**
1. Transfer credit is granted for all lower-division courses taken at other regionally accredited colleges, providing the courses are comparable to the required program and degree courses.
2. Adhering to the "Credit by Examination" policy of the college, students who have prior knowledge and/or experience may challenge program and degree required courses.
3. The 30-unit option plan is offered, on a space available basis, for RNs currently licensed in California. Requirements include completion (or challenge) of acceptable college level courses in physiology and microbiology with grades of "C" or better prior to enrollment in the program and completion (or challenge) of NRSR 15 and 19 (or NRSR 23 and 24) in sequence. Those who complete this option do not graduate or receive a degree.
4. Admission of any student eligible for advanced placement in the program following an academic evaluation is admitted on a first come, space available basis. Students re-entering the program, however, receive priority. Students may obtain further information regarding program placement policies from the Sierra College website.

**UPWARD MOBILITY LVN TO RN OPTION:**
LVNs currently employed in an acute or long term facility and licensed in California, who meet the college and program admission requirements and have completed the courses prerequisite to the second year nursing courses, may apply for advanced placement in NRSR 23. Upon admission, the student must complete the NRSR 23 and 24 sequence, and the remaining required program and degree general education courses. LVNs interested in pursuing an Associate Degree Nursing and taking National Council Licensure Examination (NCLEX) to be a Registered Nurse may be admitted to the Upward Mobility program. A copy of current and active LVN license, verification of 6 months full-time employment within the last 2 years as an LVN in acute or long term care settings is also required.

**PROGRAM REQUIREMENTS:**
* ENGL 1A Introduction to Composition
* MATH A Introduction to Composition or one of the following:
  a. MATH D Intermediate Algebra
  b. MATH 12 College Algebra
  c. MATH 16A Calculus for Social and Life Sciences
  d. MATH 16B Calculus for Social and Life Sciences
  e. MATH 29 Pre-Calculus Mathematics
  f. MATH 30 Analytical Geometry and Calculus
  g. MATH 31 Analytical Geometry and Calculus
  h. MATH 42 Business Calculus
  i. Two semesters of high school algebra or higher completed with grades of C or better

* BIOL 4 or 8A/8B Microbiology **
* BIOL 5 or 7A/7B Human Anatomy **
* BIOL 6 Human Physiology **
* NUT 10 Nutrition **
* PSYC 1 Introduction to Psychology
* HDEV 1 Human Development

**APPLICATION PROCEDURES:**
All application packets are evaluated for completeness and adequate qualification. Incomplete application packets are not considered for admission. A complete application packet consists of:
1. Fulfillment of all prerequisite requirements.
2. Basic Life Support certificate from the American Heart Association designated for Healthcare Providers.
3. Completion of the Sierra College graduation reading proficiency requirement.
4. Official transcripts for all colleges referenced in the application.
5. Official college course descriptions for all prerequisite courses taken outside of Sierra College. Course descriptions must match the year and semester the completed course is documented on the transcript.

**Nursing, Registered Courses**

**NRSR 10 INTRODUCTION TO NURSING AND THE NURSING PROCESS**
Units: 10
Prerequisite: Completion of BIOL 4 or 8A/8B, 5 or 7A/7B, 6, NUT 10, HDEV 1, PSYC 1, MATH A, and ENGL 1A with grades of "C" or better; 12.5 grade reading level; overall GPA of 2.0 in prerequisites
Hours: 360 (90 lecture, 270 laboratory)
Introduction to nursing, with overview of its evolution, present trends and issues, legal and ethical aspects, and the major concepts underlying today's practice. Theory and correlated clinical practice related to utilizing the nursing process based on Roy's Adaptation Model to provide direct care to stable adult patients. Emphasis on basic human needs and promoting adaptive mechanisms for attaining and maintaining wellness. Students gain the knowledge and skills necessary to perform all basic nursing procedures. (letter grade only) (CSU)
NRSR 12 NURSING THE ADULT WITH COMMON/REMEDIAL HEALTH PROBLEMS
Units: 10
Prerequisite: Completion of NRSR 10 with a grade of “C” or better
Hours: 360 (90 lecture, 270 laboratory)
Theory and correlated clinical practice related to utilizing the nursing process based on Roy’s Adaptation Model to promote adaptation by clients experiencing common and/or remedial illnesses/stressors. Students further develop skills and apply theory introduced in N.R. 10 in varied and more complex settings, and gain additional theory and skills related to new clinical areas and levels of responsibility. (letter grade only) (CSU)

NRSR 13 TRANSITION FROM LVN TO RN
Units: 2
Prerequisite: Admission to ADN program with advanced standing
Hours: 72 (18 lecture, 54 laboratory)
Designed for vocational nurses who are admitted to the registered nursing program at Sierra College. Provides strategies to integrate the student into the RN program and its philosophy and curricular framework. (pass/no pass grading) (not transferable)

NRSR 15 NURSING MANAGEMENT OF CLIENTS THROUGH THE LIFE CYCLE
Units: 12
Prerequisite: Completion of NRSR 12 with a grade of “C” or better or current LVN licensure and BIOL 4 or 8A/8B, 5 or 7A/7B, 6, NUTF 10, HDEV 1, PSYC 1, MATH A, and ENGL 1A with grades of “C” or better; 12.5 grade reading level
Corequisite: Completion of COMM 1 AND SOC 1 or ANTH 2 with grades of “C” or better
Hours: 414 (117 lecture, 297 laboratory)
Theory and practice related to application of the nursing process to care for clients with mental health problems, elderly clients, obstetric and pediatric clients experiencing illness/stressors. Students further develop skills and apply theory introduced in lower level nursing courses, and gain additional theory and skills related to new clinical areas and levels of responsibility. Includes the nursing process, promotion of health/rehabilitation, health teaching, management and leadership. NRSR 15 is equivalent to the sequence of NRSR 14/NRSR 16. (letter grade only) (CSU)

NRSR 19 NURSING MANAGEMENT-MULTIPLE PATIENTS WITH COMPLEX HEALTH PROBLEMS
Units: 11
Prerequisite: Completion of NRSR 15 or NRSR 16 with a grade of “C” or better
Hours: 414 (90 lecture, 324 laboratory)
Theory and practice related to utilizing the nursing process (based on Roy’s Adaptation Model) to care for adult clients having a variety of complex health problems. Focus will be on the role of the registered nurse, promotion and health/rehabilitation, health teaching, management and leadership of multiple clients. The clinical practice will be in the out patient and acute care facilities. NRSR 19 is equivalent to the sequence of NRSR 18/NRSR 20. (letter grade only) (CSU)

NRSR 21 NURSING FUNDAMENTALS AND GERIATRIC NURSING
Units: 11
Prerequisite: Completion of BIOL 4 or 8A/8B, 5 or 7A/7B, 6, NUTF 10, HDEV 1, PSYC 1, MATH A, and ENGL 1A with grades of “C” or better; 12.5 grade reading level; overall GPA of 2.0 in prerequisites
Advisory: Individual passing score of 75% or greater in each area of the Test of Essential Academic Skills (TEAS) supports successful matriculation through the ADN program
Hours: 398 (98 lecture, 300 laboratory)
Introduction to nursing with overview of its evolution, present trends and issues, legal and ethical aspects and the major concepts underlying today’s practice. Theory and correlated clinical practice related to utilizing the nursing process based on Roy’s Adaptation Model to provide direct care to stable adult and elderly patients. Emphasis on basic human needs and promoting adaptive mechanisms for attaining and maintaining wellness. Students gain the knowledge and skills necessary to perform all basic nursing procedures. (letter grade only) (CSU)

NRSR 22 MEDICAL SURGICAL I AND PEDIATRIC NURSING
Units: 11
Prerequisite: Completion of NRSR 21 with a grade of “C” or better
Hours: 390 (106 lecture, 284 laboratory)
Theory and correlated clinical practice related to utilizing the nursing process based on Roy’s Adaptation Model to promote adaptation by adult and pediatric clients and their families experiencing common and/or remedial illnesses/stressors. Students further develop skills and apply theory introduced in NRSR 21 in varied and more complex settings, and gain additional theory and skills related to new clinical areas and levels of responsibility. (letter grade only) (CSU)
NRSR 23 MEDICAL SURGICAL II AND MENTAL HEALTH NURSING
Units: 11
Prerequisite: Completion of NRSR 22 with a grade of “C” or better or current LVN licensure and BIOL 4 or 8A/8B, 5 or 7A/7B, 6, NUTF 10, HDEV 1, PSYC 1, MATH A, and ENGL 1A with grades of “C” or better; Completion of or concurrent enrollment in COMM 1 and SOC 1 or ANTH 2 with grades of “C” or better; 12.5 grade reading level
Hours: 386 (104 lecture, 282 laboratory)
Theory and clinical practice related to application of the nursing process based on Roy’s Adaptation Model. Students provide care for the adult client having a variety of complex health problems and learn to apply the nursing process for clients experiencing common mental health. Focus is on the role of the registered nurse in health teaching, leadership, management and team communication. Students further develop skills and apply theory introduced in NRsr 22 in varied and more complex settings, and gain additional theory and skills related to new clinical areas and levels of responsibility. (letter grade only) (CSU)

NRSR 24 ADVANCED MEDICAL SURGICAL AND MATERNAL-NEWBORN NURSING
Units: 11
Prerequisite: Completion of NRSR 23 with a grade of “C” or better
Hours: 396 (100 lecture, 296 laboratory)
Theory and correlated clinical practice related to the application of the nursing process based on Roy’s Adaptation Model for multiple adult and geriatric clients with complex health problems experiencing acute illness. Students learn to promote adaptation for the maternal-newborn clients experiencing illness/stressors. Students further develop skills and apply theory introduced in previous semesters in varied and more complex settings, and gain additional theory and skills related to new clinical areas and levels of responsibility. (letter grade only)(CSU)

NRSR 95 INTERNSHIP IN REGISTERED NURSING
Units: 0.5-4
Designed for advanced students to work in an area related to their educational or occupational goal. Provides new on-the-job technical training under the direction of a worksite supervisor, allowing students to expand knowledge and skills in the chosen field. Mandatory orientation session and faculty approval to determine eligibility. Students may earn up to a total of 16 units in internship courses (any course numbered 95 and PDEV 94). (CSU—with unit limitation)

NRSR 400 SELECTED TOPICS IN REGISTERED NURSING
Units: 0.5-4
Courses of study will cover topics relevant to the discipline. Topics will vary. Course content and unit credit to be determined by the division. May be offered as seminar, lecture, or lecture/laboratory classes. Students may repeat “400” courses within a discipline only when a topic is different from previously completed course. See Selected Topics page in catalog. (not transferable)

Nutrition and Food Science

SCIENCES & MATHEMATICS
DEAN: Heather Roberts
ASSOCIATE DEAN: Michael Kane
DIVISION OFFICE: V 211
FACULTY: M. Mukutmoni
liaison Counselors: T. Maddux, N. Martinis

The Nutrition and Food Science curriculum is designed to provide students with knowledge of nutrition principles and skills in food preparation techniques. The curriculum provides education for transfer to upper division institutions for careers in foods, food preparation or food service, dietetics and dietary health care, and promotes optimum health to maximize one’s physical, social, and economic potential.

NUTRITION AND FITNESS TRAINER CERTIFICATE
The purpose of this certificate program is to provide an enhanced understanding of the relationships among food, body composition, health, and human performance. This program is designed to meet the needs of students interested in seeking entry-level employment in fitness centers and health clubs. This program can also prepare students for the American College of Sports Medicine Health/Fitness Instructors Exam and the American Council on Exercise Exam, such that the students can ultimately become personal trainers in these facilities and command higher salaries. Career opportunities include: fitness professional, personal trainer, aerobic dance instructor, fitness club instructor, and nutrition specialist. A certificate is designed to provide career technical skills; it is not equivalent to an A.A. or A.S. degree.

REQUISITE COURSES

<table>
<thead>
<tr>
<th>COURSE</th>
<th>UNITS</th>
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<tbody>
<tr>
<td>NUTF 5 Food Preparation for Nutrition and Life Fitness</td>
<td>3</td>
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<tr>
<td>NUTF 10 Nutrition.</td>
<td>3</td>
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<tr>
<td>NUTF 14 Nutrition for Physical Performance</td>
<td>3</td>
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<tr>
<td>PHED 2 Exercise Assessment and Prescription</td>
<td>3</td>
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<tr>
<td>PHED 3 Aerobic Training with Fitness Equipment</td>
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<tr>
<td>PHED 5 Weight Training.</td>
<td>1.5</td>
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<tr>
<td>PHED 83 Physiology of Fitness</td>
<td>3</td>
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<tr>
<td>PHED 85 Techniques of Fitness Instruction</td>
<td>3</td>
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</tbody>
</table>

TOTAL UNITS REQUIRED: 21
Nutrition & Food Science Courses

NUTF 1 PRINCIPLES OF FOOD PREPARATION
Units: 3
Hours: 90 (36 lecture, 54 laboratory)
Scientific principles of food preparation with emphasis using current techniques and USDA Dietary Guidelines. The role of culture and ethnicity are integrated into cooking and meal planning. Introduces time and energy management, meal planning, and sanitation, social and economic factors. Designed for Family and Consumer Science, pre-dietetic, food science, culinary, and nutrition majors. Lab includes preparation and evaluation of food products. (CSU)

NUTF 5 FOOD PREPARATION FOR NUTRITION AND LIFE FITNESS
Units: 3
Hours: 90 (36 lecture, 54 laboratory)
Scientific principles and methods of healthy selection of foods based on current research and USDA dietary guidelines. Recipe selection, menu planning, food preparation, analysis and evaluation of healthy choices. Caloric and nutrient value of selected recipes based on health and fitness of individuals. (CSU)

NUTF 10 NUTRITION
Units: 3
Prerequisite: Eligibility for ENGL 50 or ENGL N
Hours: 54 lecture
Fundamentals of human nutrition, with emphasis on the body’s use of food nutrients. Recommended for students interested in the scientific approach to the study of nutrition. (CSU, UC)

NUTF 13 NUTRITION THROUGHOUT THE LIFE CYCLE
Also known as HDEV 61
Units: 3
Advisory: Completion of NUTF 10
Hours: 54 lecture
Examination of nutritional concerns, requirements, and metabolism during several stages of the life cycle, including pregnancy, lactation, infancy, childhood, adolescence and the elderly years. Analysis of cultural, environmental, physical, and economic factors affecting nutritional status. Study methods of assuring adequate nutrition through dietary selection and promotion of maternal, infant, geriatric health. (CSU)

NUTF 14 NUTRITION FOR PHYSICAL PERFORMANCE
Units: 3
Prerequisite: Completion of NUTF 10 with grade of “C” or better
Hours: 54 lecture
A comprehensive study of essential nutrients in food and supplements, their function and utilization during activities involving muscle strength, muscle endurance, cardiopulmonary fitness, and flexibility. (CSU)

NUTF 28 INDEPENDENT STUDY
Units: 1-3
Designed for students interested in furthering their knowledge at an independent study level in an area where no specific curriculum offering is currently available. Independent study might include, but is not limited to, research papers, special subject area projects, and research projects. May be taken four times for credit. See Independent Study page in catalog. (CSU)

NUTF 95 INTERNSHIP IN NUTRITION AND FOOD SCIENCE
Units: 0.5-4
Designed for advanced students to work in an area related to their educational or occupational goal. Provides new on-the-job technical training under the direction of a worksite supervisor, allowing students to expand knowledge and skills in the chosen field. Mandatory orientation session and faculty approval to determine eligibility. Students may earn up to a total of 16 units in internship courses (any course numbered 95 and PDEV 94). (CSU—with unit limitation)

Perceptual Training

STUDENT SERVICES
DEAN: Kaylene Hallberg
DIVISION OFFICE: Winstead Center L-102
FACULTY: T. Prouty, M. Shelley, D. Stone
AREA OFFICE: MT-8
LIAISON COUNSELORS: S. Bramlett, M. Kwoka

Courses offered in this department are designed primarily for Learning Disabled students. The emphasis is placed on perceptual development through an individualized program. These courses may include vision training, auditory processing/discrimination, and learning strategies.

Perceptual Training Courses

PRCP 601 VISUAL PERCEPTUAL SKILLS
Units: 0.5-1
Advisory: Completion of LRDS 610 and placement by a Learning Disabilities Specialist recommended
Hours: 27 laboratory per .5 unit
Develops visual perceptual skills using multi-sensory approaches to learning. Promotes ability to process visual information by improving tracking, fusion, peripheral vision, perceptual speed, and visual memory. Designed for students with learning disabilities. May be taken four times for credit. (pass/no pass grading) (not degree applicable)
PRCP 602A INTRODUCTORY PHONETIC CONCEPTS
Units: 3
Advisory: Completion of LRDS 610, equivalent course, or assessment recommendation of Learning Disabilities Specialist
Hours: 63 (45 lecture, 18 activity)
Develops skills for phonetic letter–sound association and sequence in words. Promotes the ability to use single-syllable word attack and spelling generalizations for improved reading and spelling. Increases understanding of learning disabilities and features multi-sensory discovery learning. Designed for students with learning disabilities. May be taken twice for credit. (not degree applicable)

PRCP 602B ADVANCED PHONETIC CONCEPTS
Units: 3
Prerequisite: Completion of PRCP 602A, or equivalent course, or recommendation of Learning Disabilities Specialist
Hours: 63 (45 lecture, 18 activity)
Continues to develop skills for phonetic letter sound association and sequence in words. Promotes the ability to use multi-syllable word attack and spelling generalizations for improved reading, spelling and writing fluency. Further understanding of learning disabilities and features multi-sensory discovery learning. Designed for students with learning disabilities. May be taken twice for credit. (not degree applicable)

Personal Development

STUDENT SERVICES
DEAN: Kaylene Hallberg
DIVISION OFFICE: Winstead Center L-102
FACULTY: C. Epton-Davis, E. Farrellly, T. Haenny, M. Kwoka, N. Martinis, M. Moon, C. Morris, P. Neal, B. Oliver, D. Quadros, V. Skeels, C. West
LIAISON COUNSELORS: M. Moon, C. Morris

Courses offered in this department are designed to assist students with the transition to college life by setting realistic educational, career, and personal goals.

Personal Development Courses

PDEV 1 COLLEGE SUCCESS
Units: 3
Hours: 54 lecture
Strategies for creating success in college, life and career. Academic methods for test-taking, memory improvement, note-taking, critical thinking, and research skills. Techniques for effective time management, goal setting, increased self-awareness, motivation, communication and stress reduction. (CSU, UC)

PDEV 6 CAREER PLANNING
Units: 3
Hours: 54 lecture
Individual assessments of personality, interests, values, and skills to help identify appropriate careers and college majors. Occupational research, research on educational requirements, goal setting, decision-making, and job search strategies; including resume writing and interviewing. (CSU)

PDEV 8 INTRODUCTION TO COLLEGE
Units: 0.5-2
Hours: 9 lecture per .5 unit
Introduction to higher education, the college catalog, college terms, degree/certificate requirements, student resources, student success practices, steps to choosing a major and overview of the transfer process to four year colleges/universities. Students will formulate an educational plan to increase success in reaching educational goals. (CSU)

PDEV 9 ASSERTIVENESS TRAINING
Units: 1
Hours: 18 lecture
Step by step strategies for becoming more assertive, rather than passive or aggressive. Learn verbal and nonverbal skills for communicating with people more authentically, effectively and fairly. Examines cultural and social differences in assertive communication. (CSU)

PDEV 21 SELF ASSESSMENT AND CAREER EXPLORATION THROUGH TECHNOLOGY
Units: 0.5-1
Hours: 15 (3 lecture, 12 activity) per .5 unit
Assists students in self assessment, decision making and career exploration through the use of technology and career assessment tools. (CSU)

PDEV 28 INDEPENDENT STUDY
Units: 1-3
Designed for students interested in furthering their knowledge at an independent study level in an area where no specific curriculum offering is currently available. Independent study problems might include, but are not limited to, research papers, special construction projects, and research projects. May be taken four times for credit. See Independent Study page in catalog. (CSU)

PDEV 52 STUDENT LEADERSHIP DEVELOPMENT
Units: 2
Hours: 54 (18 lecture, 36 activity)
Leadership in student government, campus clubs and non-academic contexts. Application of practical leadership skills on out-of-class projects; includes planning and running effective meetings, parliamentary procedure, group leadership and motivation techniques. (CSU)
PDEV 70 STRESS AND WELL BEING  
Units: 3  
Hours: 54 lecture  
A review of the causes, effects and solutions for stress. Explores the relationship between the psychological and socio-cultural factors. Coping techniques include meditation, cognitive strategies and the practice of wellness. (CSU)

PDEV 94 CAREER EXPLORATION INTERNSHIP  
Units: 0.5-4  
Designed for advanced students to work in an area related to their educational or occupational goal. Provides new on-the-job technical training under the direction of a worksite supervisor, allowing students to expand knowledge and skills in the chosen field. Mandatory orientation session and faculty approval to determine eligibility. Students may earn up to a total of 16 units in internship courses (any course numbered 95 and PDEV 94). (CSU—with unit limitation)

PDEV 150C CAREERS IN THE COMPUTER INDUSTRY  
Also known as CIS 150, CSCI 150  
Units: 0.5  
Hours: 9 lecture  
Career exploration in the computer industry. Includes orientation to the academic program at Sierra College, employment opportunities, career pathways, educational planning of the Associates degree, certificate, transfer, research of labor market and occupational information. (pass/no pass grading) (CSU)

PDEV 300 SELECTED TOPICS IN PERSONAL DEVELOPMENT  
Units: 0.5-4  
Courses of study will cover topics relevant to the discipline. Topics will vary. Course content and unit credit to be determined by the division. May be offered as seminar, lecture, or lecture/laboratory classes. Students may repeat "300" courses within a discipline only when a topic is different from previously completed course. See Selected Topics page in catalog. (CSU)

PDEV 302 DEVELOPING A SCHOLARSHIP PORTFOLIO  
Units: 0.5-1  
Hours: As scheduled for a total of 18 lecture hours per unit  
The process of developing a scholarship portfolio; creating a statement of purpose, procedures for soliciting letters of recommendation, determining need versus merit based scholarships, and scholarship search. (CSU)

PDEV 303 PERSONAL DEVELOPMENT THROUGH SERVICE LEARNING & CULTURAL IMMERSION  
Units: 3  
Hours: 54 lecture  
An introduction to understanding cultural values, ethics, and social complexities through reciprocal service and learning applied to an area of community need, with focus on self-reflection and cultural sensitivity. (CSU)

Philosophy

LIBERAL ARTS  
DEAN: Debra Sutphen  
ASSOCIATE DEAN: Rebecca Bocchicchio  
DIVISION OFFICE: W 107  
FACULTY: J. Haproff, V. Martin, J. Terry  
LIAISON COUNSELORS: E. Farrelly, V. Rogers

Philosophy concerns the study of fundamental questions that arise in different areas of human experience, thought, or practice. Philosophy is the basis of a sound humanistic or liberal arts education. The Philosophy program aims to make this natural activity of thought both richer and more systematic. Courses are offered which provide opportunities for self-development and the building of a coherent outlook and critical reason. In addition, the lower division prerequisites for a four-year philosophy major are offered.

TRANSFER MAJOR REQUIREMENTS in Philosophy are available in the Counseling Center. In all cases, students should consult with a counselor for specific transfer requirements.

PHILOSOPHY  
A.A. DEGREE  
The Philosophy Department serves a diverse student population in preparation for upper division coursework in Philosophy at a four-year university as well as through offering general education courses for non-philosophy majors. The A.A. degree in Philosophy will prepare students for upper-division work in Philosophy by acquainting them with the relevant terminology and conceptual positions with regards to the major subdivisions of the discipline: Metaphysics, Epistemology, Axiology and Logic. Courses are offered which provide opportunities for self-development and the building of a coherent outlook and critical reason. Students must fulfill major requirements and all associate degree requirements for the A.A. degree; see pages 42-43.

REQUIRED CORE COURSES  

<table>
<thead>
<tr>
<th>COURSE</th>
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<tbody>
<tr>
<td>PHIL 12 Introduction to Symbolic Logic</td>
<td>3</td>
</tr>
<tr>
<td>PHIL 20 Introduction to Ancient Greek Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>PHIL 21 History of Modern Philosophy</td>
<td>3</td>
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</tbody>
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PLUS 12 UNITS FROM THE FOLLOWING:

<table>
<thead>
<tr>
<th>COURSE</th>
<th>UNITS</th>
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<tbody>
<tr>
<td>PHIL 2 Introduction to Philosophy: Ethics</td>
<td>3</td>
</tr>
<tr>
<td>PHIL 4 Introduction to Critical Thinking</td>
<td>3</td>
</tr>
<tr>
<td>PHIL 5 Philosophical Writing</td>
<td>1-3</td>
</tr>
<tr>
<td>PHIL 6 Introduction to Philosophy: Knowledge and Reality</td>
<td>3</td>
</tr>
<tr>
<td>PHIL 10 Philosophy of Religion</td>
<td>3</td>
</tr>
<tr>
<td>PHIL 13 Introduction to Asian Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>PHIL 15 Introduction to Philosophies of Self &amp; Personhood</td>
<td>3</td>
</tr>
<tr>
<td>PHIL 27 Introduction to Philosophy of Women in Western Cultures</td>
<td>3</td>
</tr>
<tr>
<td>PHIL 30 Introduction to Social and Political Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>PHIL 50 Introduction to Philosophy through Literature and Film</td>
<td>3</td>
</tr>
<tr>
<td>PHIL 60 Introduction to Environmental Ethics</td>
<td>3</td>
</tr>
<tr>
<td>PHIL 65 Introduction to Philosophy of Science</td>
<td>3</td>
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</tbody>
</table>

TOTAL UNITS REQUIRED: 21
### Philosophy Courses

**PHIL 2 INTRODUCTION TO PHILOSOPHY: ETHICS**  
Units: 3  
Advisory: Eligibility for ENGL 1A  
Hours: 54 lecture  
Western systems of ethics including but not limited to: ancient Greek ethics, Utilitarianism, Kantian ethics, and their application to contemporary moral dilemmas. (CSU, UC)

**PHIL 4 INTRODUCTION TO CRITICAL THINKING**  
Units: 3  
Advisory: Eligibility for ENGL 1A  
Hours: 54 lecture  
A study of the relationship between logic and language. Emphasis on informal fallacies, deductive and inductive logic. Emphasizes the elements of the argumentative essay. (CSU, UC)

**PHIL 5 PHILOSOPHICAL WRITING**  
Units: 1  
Advisory: Eligibility for ENGL 1A or ESL 40W  
Hours: 18 lecture  
Introduction to the mechanics of writing philosophy papers and the integration of deductive and inductive logic into formal essay format. Includes thesis development, research and organization of an essay, evaluation of online sources, creation and testing of logical structure, integration of logic into a formal philosophical essay as well as formatting standard types of philosophical papers including compare and contrast, argumentative, analytic and explanatory. Recommended for Philosophy majors. May be taken three times for credit. (CSU)

**PHIL 6 INTRODUCTION TO PHILOSOPHY: KNOWLEDGE AND REALITY**  
Units: 3  
Advisory: Eligibility for ENGL 1A  
Hours: 54 lecture  
Introduction to the method and primary problems of philosophy including logic and knowledge, the free will-determinism issue, God and religion, morality and society, and the mind-body issue. (CSU, UC)

**PHIL 10 PHILOSOPHY OF RELIGION**  
Units: 3  
Advisory: Eligibility for ENGL 1A  
Hours: 54 lecture  
Analysis of the major philosophical issues raised by, but not limited to traditional Western religion. Includes an examination of the arguments for God’s existence, immortality, the problem of evil, miracles, the rationality of religious belief, theories about the nature and function of the language of religion, and religious pluralism. (CSU, UC)

**PHIL 12 INTRODUCTION TO SYMBOLIC LOGIC**  
Units: 3  
Advisory: Eligibility for ENGL 1A  
Hours: 54 lecture  
Introduction to sentence and predicate logic, syntax and semantics, transcription between ordinary and symbolic languages, deductive validity and proof techniques. (CSU, UC)

**PHIL 13 INTRODUCTION TO ASIAN PHILOSOPHY**  
Units: 3  
Advisory: Eligibility for ENGL 1A  
Hours: 54 lecture  
Major philosophies of Asia including Hinduism, Buddhism, Taoism, Confucianism, and Shinto. Focuses on issues such as immortality, the nature of reality, god, the self, society, transcendence and morality. Also looks at the influences of Eastern Philosophy on Western Culture. (CSU, UC)

**PHIL 15 INTRODUCTION TO PHILOSOPHIES OF SELF AND PERSONHOOD**  
Units: 3  
Advisory: Eligibility for ENGL 1A  
Hours: 54 lecture  
An examination of rival theories of personhood from various philosophical, religious and scientific perspectives. Includes Confucian, Hindu, Buddhist and Judeo-Christian conceptions of personhood, the philosophical views represented by Plato, Kant, Marx, and Sartre, as well as the psychological views represented by Freud, Skinner, and Lorentz. (CSU, UC)

**PHIL 20 INTRODUCTION TO ANCIENT GREEK PHILOSOPHY**  
Units: 3  
Advisory: Eligibility for ENGL 1A  
Hours: 54 lecture  
A study of the rise of philosophy in ancient Greece: Milesian philosopher-scientists, Socrates, Plato, Aristotle, Stoics, Skeptics, and Epicureans. (CSU, UC)

**PHIL 21 HISTORY OF MODERN PHILOSOPHY**  
Units: 3  
Advisory: Eligibility for ENGL 1A  
Hours: 54 lecture  
Western philosophy from the rise of modern science through the systems of Descartes, Spinoza, Locke, Leibniz, Hume and Kant. (CSU, UC)

**PHIL 27 INTRODUCTION TO PHILOSOPHY OF WOMEN IN WESTERN CULTURES**  
Units: 3  
Advisory: Eligibility for ENGL 1A  
Hours: 54 lecture  
Introduction to the concepts of womanhood and feminism in mythic, classic, medieval and major philosophical traditions. Emphasis on the images, roles and beliefs about women found in the humanities and philosophy with respect to their impact and contemporary relevance. (CSU, UC)
PHIL 28 INDEPENDENT STUDY
Units: 1-3
Designed for students interested in furthering their knowledge at an independent study level in an area where no specific curriculum offering is currently available. Independent study might include, but is not limited to, research papers, special subject area projects, and research projects. May be taken four times for credit. See Independent Study page in catalog. (CSU, UC—with unit limitation)

PHIL 30 INTRODUCTION TO SOCIAL AND POLITICAL PHILOSOPHY
Units: 3
Hours: 54 lecture
Major philosophical issues surrounding the nature of society and justifications for the authority of the state. Focuses on how the concepts of the common good, individual rights, liberty, equality, and democracy relate to notions of justice, private property and the legitimate use of state power. (CSU, UC)

PHIL 50 INTRODUCTION TO PHILOSOPHY THROUGH LITERATURE AND FILM
Units: 3
Advisory: Eligibility for ENGL 1A
Hours: 54 lecture
Introductory exploration of philosophical themes through various genres of literature and film. Topics include: knowledge, truth, personal identity, ethics, justice, religious belief and free will. (CSU, UC)

PHIL 60 INTRODUCTION TO ENVIRONMENTAL ETHICS
Units: 3
Hours: 54 lecture
Philosophical survey of the ethical questions and issues raised when considering the relationship between human beings and the environment. Topics include the moral standing of animals, land use and preservation policy, growth and sustainability, and environmental justice. Theoretical approaches include deep ecology, social ecology, ecofeminism, multicultural perspectives, and environmental pragmatism. (CSU, UC)

PHIL 65 INTRODUCTION TO THE PHILOSOPHY OF SCIENCE
Units: 3
Advisory: Eligibility for ENGL 1A
Hours: 54 lecture
The philosophical foundations of science such as criteria for distinguishing between science and pseudo-science, questions concerning scientific progress, justification of scientific hypotheses, the theory–dependence of observation, the nature of scientific revolutions, the possibility of objectivity and the challenges of relativism, feminism and marginalization. (CSU, UC)

Photography

LIBERAL ARTS
DEAN: Debra Sutphen
ASSOCIATE DEAN: Rebecca Bocchicchio
DIVISION OFFICE: W 107
FACULTY: R. Gregg, R. Snook
LIAISON COUNSELORS: N. Martinis, M. Moon

Photography is offered as a creative means of visual expression with artistic and commercial application. Opportunities for experimental and applied aspects are provided from the beginning through advanced levels. A serious effort is made to structure offerings so that students can attain individual goals in the field of Photography. Photographic skills complement other diverse fields such as science, environmental studies, law enforcement, teaching, anthropology, art and real estate. This complementary aspect is also stressed in the program.

TRANSFER MAJOR REQUIREMENTS in Photography are available in the Counseling Center. In all cases, students should consult with a counselor for specific transfer requirements.

PHOTOGRAPHY A.A. OR A.S. DEGREE
Positions for which students of photography are qualified are professional photographer, commercial photographer, advertising, and photographic journalism. Students must fulfill major requirements and all associate degree requirements for the A.A./A.S. degree; see pages 42-43.

REQUIRED COURSES

<table>
<thead>
<tr>
<th>COURSES</th>
<th>UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHOT 10 History &amp; Aesthetics of Photography (also ART 11)</td>
<td>3</td>
</tr>
<tr>
<td>PHOT 60A Elementary Photography</td>
<td>3</td>
</tr>
<tr>
<td>PHOT 60B Intermediate Photography</td>
<td>3</td>
</tr>
<tr>
<td>PHOT 65 Documentary Photography OR</td>
<td></td>
</tr>
<tr>
<td>PHOT 85 Photojournalism</td>
<td>2</td>
</tr>
<tr>
<td>PHOT 70A Advanced Photography</td>
<td>3</td>
</tr>
<tr>
<td>PHOT 75 Introduction to Digital Imaging (also AAD 75)</td>
<td>3</td>
</tr>
</tbody>
</table>

PLUS 7 UNITS SELECTED FROM THE FOLLOWING:

<table>
<thead>
<tr>
<th>COURSES</th>
<th>UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>AAD 20 Portfolio Development &amp; Presentation</td>
<td>2</td>
</tr>
<tr>
<td>ART 4A Drawing</td>
<td>3</td>
</tr>
<tr>
<td>PHOT 28 Independent Study</td>
<td>1</td>
</tr>
<tr>
<td>PHOT 30 Photographing Works of Art (also AAD 30)</td>
<td>.5</td>
</tr>
<tr>
<td>PHOT 61 Photography Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>PHOT 65 Documentary Photography</td>
<td>2</td>
</tr>
<tr>
<td>PHOT 70B Advanced Photography</td>
<td>3</td>
</tr>
<tr>
<td>PHOT 76 Advanced Projects in Digital Imaging (also AAD 76)</td>
<td>3</td>
</tr>
<tr>
<td>PHOT 78 Digital Photography</td>
<td>2</td>
</tr>
<tr>
<td>PHOT 80 Basic Color Photography</td>
<td>2</td>
</tr>
<tr>
<td>PHOT 85 Photojournalism</td>
<td>2</td>
</tr>
<tr>
<td>PHOT 88 Business Practices for Photographers</td>
<td>3</td>
</tr>
</tbody>
</table>
PHOT 90A-T Photography Field Workshop ......................... 5-2
PHOT 91B-C Alternative Processes Workshop .................. 5-2
PHOT 95 Internship in Photography .......................... 5-2

**TOTAL UNITS REQUIRED: 24**

Recommended Electives: AAD 12, 52, 60, 79, 81A, 81B; ART 6A, 50;
BUS A, 120, 121, 122, 140; COMM 10; JRNL 20A

**PHOTOGRAPHY CERTIFICATE**

A certificate is designed to provide career technical skills; it is not
equivalent to an A.A. or A.S. degree.

**REQUIRED COURSES**

**20 UNITS FROM THE FOLLOWING CORE:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHOT 10 History &amp; Aesthetics of Photography (also ART 11)</td>
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</tr>
<tr>
<td>PHOT 65 Documentary Photography OR</td>
<td></td>
</tr>
<tr>
<td>PHOT 85 Photojournalism</td>
<td>2</td>
</tr>
<tr>
<td>PHOT 70A Advanced Photography</td>
<td>3</td>
</tr>
<tr>
<td>PHOT 75 Introduction to Digital Imaging (also AAD 75)</td>
<td>3</td>
</tr>
<tr>
<td>PHOT 88 Business Practices for Photographers</td>
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</tbody>
</table>

**PLUS 9 UNITS SELECTED FROM THE FOLLOWING:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>AAD 20 Portfolio Development &amp; Presentation</td>
<td>2</td>
</tr>
<tr>
<td>ART 4A Drawing</td>
<td>3</td>
</tr>
<tr>
<td>PHOT 28 Independent Study</td>
<td>1</td>
</tr>
<tr>
<td>PHOT 30 Photographing Works of Art (also AAD 30)</td>
<td></td>
</tr>
<tr>
<td>PHOT 61 Photography Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>PHOT 65 Documentary Photography</td>
<td>2</td>
</tr>
<tr>
<td>PHOT 70B Advanced Photography</td>
<td>3</td>
</tr>
<tr>
<td>PHOT 76 Advanced Projects in Digital Imaging (also AAD 76)</td>
<td>3</td>
</tr>
<tr>
<td>PHOT 78 Digital Photography</td>
<td>2</td>
</tr>
<tr>
<td>PHOT 80 Basic Color Photography</td>
<td>2</td>
</tr>
<tr>
<td>PHOT 85 Photojournalism</td>
<td>2-4</td>
</tr>
<tr>
<td>PHOT 90A-T Photography Field Workshop</td>
<td>5-2</td>
</tr>
<tr>
<td>PHOT 91B-C Alternative Processes Workshop</td>
<td>5-2</td>
</tr>
<tr>
<td>PHOT 95 Internship in Photography</td>
<td>5-2</td>
</tr>
</tbody>
</table>

**TOTAL UNITS REQUIRED: 29**

**ALTERNATIVE PROCESSES IN PHOTOGRAPHY SKILLS CERTIFICATE**

For those students who want to broaden their expressive abilities beyond the traditional photographic image. Helps prepare students for creative image making for the advertising and portrait photography markets. A certificate is designed to provide career technical skills; it is not equivalent to an A.A. or A.S. degree.

**REQUIRED COURSES**

**6 UNITS SELECTED FROM THE FOLLOWING:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHOT 28 Independent Study</td>
<td>1</td>
</tr>
<tr>
<td>PHOT 60B Intermediate Photography</td>
<td>3</td>
</tr>
<tr>
<td>PHOT 61 Photography Laboratory Experience</td>
<td>1</td>
</tr>
<tr>
<td>PHOT 90G Pinhole Photography Workshop</td>
<td>5-1</td>
</tr>
<tr>
<td>PHOT 91B Alternative Processes Workshop: Handcoloring</td>
<td>0.5</td>
</tr>
<tr>
<td>PHOT 91C Alternative Processes Workshop: Cyanotype</td>
<td>0.5</td>
</tr>
</tbody>
</table>

**TOTAL UNITS REQUIRED: 6**

**COLOR PHOTOGRAPHY SKILLS CERTIFICATE**

Assists in preparing students to create visually stimulating images utilizing the power of color. Focuses on the aesthetic use of color, as well as technical mastery of color balancing, accuracy, and manipulation. These skills are necessary for both laboratory technicians and photographers. A certificate is designed to provide career technical skills; it is not equivalent to an A.A. or A.S. degree.

**REQUIRED COURSES**

**8 UNITS SELECTED FROM THE FOLLOWING:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHOT 30 Photographing Works of Art (also AAD 30)</td>
<td>0.5</td>
</tr>
<tr>
<td>PHOT 75 Introduction to Digital Imaging (also AAD 75)</td>
<td>3</td>
</tr>
<tr>
<td>PHOT 78 Digital Photography</td>
<td>2</td>
</tr>
<tr>
<td>PHOT 80 Basic Color Photography</td>
<td>2</td>
</tr>
<tr>
<td>PHOT 90B Field Workshop: Cityscape</td>
<td>0.5</td>
</tr>
<tr>
<td>PHOT 90I Field Workshop: Night Photography</td>
<td>0.5</td>
</tr>
<tr>
<td>PHOT 90L Field Workshop: Landscape</td>
<td>0.5</td>
</tr>
<tr>
<td>PHOT 90T Travel Photography Field Workshop</td>
<td>0.5</td>
</tr>
</tbody>
</table>

**TOTAL UNITS REQUIRED: 8**

**DIGITAL IMAGING SKILLS CERTIFICATE**

Designed for students interested in becoming proficient with photographic image capture, preparation, and manipulation on the computer. Valuable for those preparing for a career as a photographer, photographic lab technician, or for those upgrading their skills. A certificate is designed to provide career technical skills; it is not equivalent to an A.A. or A.S. degree.

**REQUIRED COURSES**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHOT 75 Introduction to Digital Imaging (also AAD 75)</td>
<td>3</td>
</tr>
<tr>
<td>PHOT 76 Advanced Projects in Digital Imaging (also AAD 76)</td>
<td>3</td>
</tr>
<tr>
<td>PHOT 78 Digital Photography</td>
<td>2</td>
</tr>
</tbody>
</table>

**TOTAL UNITS REQUIRED: 8**
LANDSCAPE PHOTOGRAPHY SKILLS CERTIFICATE
Course work in landscape photography trains students in the techniques utilized in creating expressive images of the environment. Helps prepare students for capturing the landscape for stock photography use, magazines, web sites and other visual media. A certificate is designed to provide career technical skills; it is not equivalent to an A.A. or A.S. degree.

REQUIRED COURSES
7 UNITS SELECTED FROM THE FOLLOWING:
PHOT 28 Independent Study ........................................ 1
PHOT 80 Basic Color Photography .................................. 2
PHOT 90A Introduction to the Zone System ...................... 1
PHOT 90B Field Workshop: Cityscape ............................ 1
PHOT 90L Field Workshop: Landscape .......................... 2
PHOT 90T Travel Photography Field Workshop ............... 1
TOTAL UNITS REQUIRED: 7

NARRATIVE PHOTOGRAPHY SKILLS CERTIFICATE
This certificate trains students to photograph assignments in such a way that they tell a story. Appropriate for those interested in gaining skills used by photojournalists, documentary and editorial photographers. A certificate is designed to provide career technical skills; it is not equivalent to an A.A. or A.S. degree.

REQUIRED COURSES
10 UNITS SELECTED FROM THE FOLLOWING:
PHOT 60B Intermediate Photography ............................ 3
PHOT 65 Documentary Photography ............................. 2
PHOT 80 Basic Color Photography ............................... 2
PHOT 85 Photojournalism ......................................... 2
PHOT 90H Documentary Field Workshop ...................... .5-1
PHOT 90I Photojournalism Field Workshop ..................... .5-1
PHOT 90M Autobiographical Photography ..................... .5-1
PHOT 90T Travel Photography Field Workshop ............... .5-1
TOTAL UNITS REQUIRED: 10

PHOTOGRAPHIC PROCESSES SKILLS CERTIFICATE
Designed to give students a broad range of skills used by both laboratory technicians and photographers. Helps train students to handle a wide range of difficult assignments and creative techniques. A certificate is designed to provide career technical skills; it is not equivalent to an A.A. or A.S. degree.

REQUIRED COURSES
12 UNITS SELECTED FROM THE FOLLOWING:
PHOT 10 History and Aesthetics of Photography (also ART 11) . 3
PHOT 28 Independent Study ........................................ 1
PHOT 30 Photographing Works of Art (also AAD 30) .......... .5
PHOT 60B Intermediate Photography ............................ 3
PHOT 75 Introduction to Digital Imaging (also AAD 75) ....... 3
PHOT 78 Digital Photography ..................................... 2
PHOT 80 Basic Color Photography ............................... 2
PHOT 90A Introduction to the Zone System ...................... 1
PHOT 90G Pinhole Photography Workshop ..................... .5-1
PHOT 90I Field Workshop: Night Photography ............... .5-1
PHOT 91B Alternative Processes Workshop: Handcoloring ..... .5-1
PHOT 91C Alternative Processes Workshop: Cyanotype .......... .5-1
TOTAL UNITS REQUIRED: 12

PORTRAIT, FASHION AND WEDDING PHOTOGRAPHY SKILLS CERTIFICATE
For those students interested in preparing for a career in portrait, fashion, or wedding photography. Designed to help train students in portrait techniques and portfolio presentation along with providing an opportunity for students to work with a photographer in the industry. A certificate is designed to provide career technical skills; it is not equivalent to an A.A. or A.S. degree.

REQUIRED COURSES
13 UNITS SELECTED FROM THE FOLLOWING:
PHOT 28 Independent Study ........................................ 1
PHOT 70A Advanced Photography ............................... 3
PHOT 70B Advanced Photography ............................... 3
PHOT 78 Digital Photography ................................. 2
PHOT 88 Business Practices for Photographers ............... 3
PHOT 90H Documentary Field Workshop ...................... .5
PHOT 90J Photojournalism Field Workshop .................... .5
PHOT 90P Workshop: Portraits ................................... 1
TOTAL UNITS REQUIRED: 13
Photography Courses

PHOT 10 HISTORY AND AESTHETICS OF PHOTOGRAPHY
Also known as ART 11
Units: 3
Hours: 54 lecture
Historical and thematic survey of photography as an art form and communication tool from its invention to the present. Explores various critical perspectives including aesthetic and design principles, influential themes, periods, and photographers. Investigates technical considerations, functions and photography’s role in the development of mass culture. (CSU, UC)

PHOT 28 INDEPENDENT STUDY
Units: 1-3
Designed for photography majors interested in furthering their knowledge at an independent study level in an area where no specific curriculum offering is currently available. Independent study problems might include, but are not limited to, portfolio development, research papers and projects, and special construction projects. May be taken four times for credit. See Independent Study page in catalog. (CSU)

PHOT 30 PHOTOGRAPHING WORKS OF ART
Also known as AAD 30
Units: 0.5
Hours: 13 (7 lecture, 6 laboratory)
Methods and procedures involved in reproducing works of art into slides, prints or digital files for cataloging, portfolios, or publication. Covers equipment needed for both artificial and natural light situations, camera considerations, proper exposure, film types, and presentation of copy work for both two dimensional and three dimensional art. Students must furnish film, processing, storage and presentation materials. May be taken twice for credit. (CSU)

PHOT 60A ELEMENTARY PHOTOGRAPHY
Units: 3
Hours: 72 (36 lecture, 36 activity)
Aesthetic use of camera and darkroom techniques in black and white photography. Elements of design and influence of photography as an art form explored. Topics include subject selection, exposure control, film development, contact printing, enlarging, composition, lighting, print finishing, presentation, and responses to photographs within framework of historical and current perspectives. Students must furnish camera, film, and paper. (CSU, UC)

PHOT 60B INTERMEDIATE PHOTOGRAPHY
Units: 3
Prerequisite: Completion of PHOT 60A or equivalent
Hours: 72 (36 lecture, 36 activity)
Technical and experimental aspects of photographic tools and techniques stressing the creative use of photography. Topics include the handmade book, creative camera and darkroom experimentation, archival permanence and exposure techniques. Students must furnish camera, film, paper and presentation materials. May be taken two times for credit. (CSU, UC)

PHOT 61 PHOTOGRAPHY LABORATORY EXPERIENCE
Units: 0.5-1
Corequisite: Concurrent enrollment in a photography course
Hours: 27 laboratory per .5 unit
Photographic laboratory concentrating on processing and printing of film and paper. Provides individual assistance with projects requiring special darkroom techniques. Studio, color and digital imaging laboratory available as appropriate. Students must provide film and paper. May be taken four times for credit. (not transferable)

PHOT 65 DOCUMENTARY PHOTOGRAPHY
Units: 2
Prerequisite: Completion of PHOT 60A or equivalent
Hours: 54 (18 lecture, 36 activity)
Photographic essay as a focused body of work. Historical origins and cultural impact of documentary photography and contemporary practice. Issues of subjective and objective response to subject matter, influence of photographic technology upon content, point of view and propaganda, organization of visual essays, and archival processing. Students select projects of personal interest and expression and participate in group projects. Students must furnish camera, film, paper and presentation materials. May be taken twice for credit. (CSU)

PHOT 70A ADVANCED PHOTOGRAPHY
Units: 3
Prerequisite: Completion of PHOT 60A or equivalent
Hours: 72 (36 lecture, 36 activity)
Studio topics in portraiture and still life with emphasis on photographic communication and expression of ideas through controlled lighting. Concentration on creative control in camera use, exposure, and composition. For students seeking a career in photography or one of its related fields, and for those who desire additional and advanced creative or technical work. Students must furnish camera, film, paper and presentation materials. (CSU)
PHOT 70B ADVANCED PHOTOGRAPHY
Units: 3
Prerequisite: Completion of PHOT 70A or equivalent
Hours: 72 (36 lecture, 36 activity)
Additional creative and technical work with lighting, composition, and portfolio development. Concentration on refining studio techniques used in commercial and fine art photography. Students work with medium and large format cameras and a variety of film choices including digital. Students must furnish film, paper, and presentation materials. May be taken twice for credit. (CSU)

PHOT 75 INTRODUCTION TO DIGITAL IMAGING
Also known as AAD 75
Units: 3
Advisory: Completion of AAD 70 recommended
Hours: 72 (36 lecture, 36 activity)
Introduction to electronic imaging and image processing with computers. Critical analysis and operating principles in the acquisition, processing, synthesis and printing of the electronic image. Basic computer scanning, retouching methods, image manipulation, printing and presentation of images. May be taken two times for credit. (CSU, UC)

PHOT 76 ADVANCED PROJECTS IN DIGITAL IMAGING
Also known as AAD 76
Units: 3
Advisory: Completion of PHOT 75/AAD 75 and PHOT 60A with grades of “C” or better recommended
Hours: 72 (36 lecture, 36 activity)
Advanced digital project development. Creating original images from a variety of input devices including scanners and digital cameras. Speed building in editing techniques. Use of various output methods appropriate for specific projects. Evaluations and critiques of completed projects. May be taken three times for credit. (CSU)

PHOT 78 DIGITAL PHOTOGRAPHY
Units: 2
Prerequisite: Completion of PHOT 60A with grade of “C” or better or equivalent
Hours: 54 (18 lecture, 36 activity)
Use of digital cameras for direct capture of photographic images. Comparison of viewfinder, SLR and digital scanning backs. Comparison of film-based and digital photography. Color management and digital output to inkjet printers, silver-based printers, etc. May be taken two times for credit. (CSU)

PHOT 80 BASIC COLOR PHOTOGRAPHY
Units: 2
Prerequisite: Completion of PHOT 60A or equivalent
Hours: 54 (18 lecture, 36 activity)
Concentration on composition, exposure, color, and theme. Camera techniques, storage, and editing are also covered. Students create multimedia slide presentations using traditional and digital projection methods. Presentation topics include scanning film, digital file preparation, and organization of the visual narrative. Students must provide 35mm camera, color transparency film, and processing. May be taken twice for credit. (CSU)

PHOT 85 PHOTOJOURNALISM
Units: 2
Prerequisite: Completion of PHOT 60A or equivalent
Hours: 54 (18 lecture, 36 activity)
Theory and practice of photography for publication in newspapers and magazines. Emphasis on communication with single images and photographic essays. Simulations of professional assignments including deadlines. College publications may be utilized for practical application. Students must furnish 35mm cameras, film and paper, or digital camera with interchangeable lenses and computer storage media. May be taken twice for credit. (CSU)

PHOT 88 BUSINESS PRACTICES FOR PHOTOGRAPHERS
Units: 3
Advisory: Completion of a minimum of three photography courses
Hours: 54 lecture
Successful business practices for commercial and fine art photographers. Elements of starting and running a photography business, including overhead, taxes, insurance, copyright law, contracts, pricing, marketing and advertising. Overview of business resources provided by professional photography organizations. Creation of a business plan related to the students’ career goals. (CSU)

PHOT 90A INTRODUCTION TO THE ZONE SYSTEM
Units: 1
Advisory: Completion of PHOT 60A or equivalent
Hours: 26 (14 lecture, 12 laboratory)
Basic study of the Zone System as it affects film and exposure. Topics include visualizing print, metering, placing values, determining exposure range of a scene, and expansion and contraction development. Students conduct film speed tests on black and white film. Primarily focused on black/white photography, though some material regarding color will be presented. May be taken four times for credit. (CSU)
PHOT 90B FIELD WORKSHOP: CITYSCAPE
Units: 0.5-3
Hours: 13 (7 lecture, 6 activity) per .5 unit
Exploration of the city and urban environments as subject matter. Topics include composition, film choice, equipment, and the traditions of cityscape photography. Location of field study will vary. Students must furnish camera, film, processing and presentation materials. May be taken four times for credit. (CSU)

PHOT 90G PINHOLE PHOTOGRAPHY WORKSHOP
Units: 0.5-3
Hours: 13 (7 lecture, 6 activity) per .5 unit
Design, construction and use of simple, inexpensive lensless cameras from containers of various sizes and shapes with emphasis on function and aesthetics. Aperture calculations and effects of camera shape upon image shape. Comparisons with traditional cameras and photography. Historical background and current resurgent interest in pinhole photography explored. May be taken four times for credit. (CSU)

PHOT 90H DOCUMENTARY FIELD WORKSHOP
Units: 0.5-3
Hours: 13 (7 lecture, 6 activity) per .5 unit
Intensive field workshop covering specific locations, methods and processes of documentary record making and interpretation. Students must furnish camera, film, and processing supplies. May be taken four times for credit. (CSU)

PHOT 90I FIELD WORKSHOP: NIGHT PHOTOGRAPHY
Units: 0.5-3
Hours: 13 (7 lecture, 6 activity) per .5 unit
Intensive field workshop covering methods and processes of night, artificial and available light photography. Topics include camera and lens use, composition, film choice, filters, equipment, metering, lighting, and the unique aspects of the event, region or situation being studied. Specific locations and lighting circumstances vary. Students must furnish camera, film, processing and presentation materials. May be taken four times for credit. (CSU)

PHOT 90J PHOTOJOURNALISM FIELD WORKSHOP
Units: 0.5-3
Hours: 13 (7 lecture, 6 activity) per .5 unit
Intensive field workshop covering specific events, styles, locations, methods, and processes of photojournalism. Topics include camera and lens use, composition, film choice, equipment, metering and lighting, working methods of photojournalists and the unique aspects of the event or region being studied. Students must furnish camera, film, and processing supplies. May be taken four times for credit. (CSU)

PHOT 90L FIELD WORKSHOP: LANDSCAPE
Units: 0.5-3
Hours: 13 (7 lecture, 6 activity) per .5 unit
Exploration of landscape photography. Topics include camera and lens use, composition, film choice, equipment, metering and lighting, the social contribution of landscape photography and the unique aspects of region being studied. Aspects of travel photography also explored. Location of field study will vary. Students must supply camera, film, processing and presentation materials. May be taken four times for credit. (CSU)

PHOT 90M AUTOBIOGRAPHICAL PHOTOGRAPHY
Units: 0.5-3
Advisory: Completion of PHOT 60A or equivalent
Hours: 13 (7 lecture, 6 activity) per .5 unit
Photography as a tool of expression, exploration and documentation. Topics include autobiographical references in art and photography, point of view, self as subject, varieties of personal description, and the influence of context such as gender, age, family, and culture upon visual communication. May be taken four times for credit. (CSU)

PHOT 90P WORKSHOP: PORTRAITS
Units: 0.5-3
Hours: 13 (7 lecture, 6 activity) per .5 unit
Exploration of portraiture in outdoor settings. Topics include oils, hybrid digital and hand processes. Location of field study will vary. May be taken four times for credit. (CSU)

PHOT 90T TRAVEL PHOTOGRAPHY FIELD WORKSHOP
Units: 0.5-3
Hours: 13 (7 lecture, 6 activity) per .5 unit
Intensive field workshop covering specific locations, methods and processes of travel photography in domestic and international locations. Includes visual themes, narrative and individual images, editorial and stock photography, composition, film and digital cameras, materials and equipment, exposure, selection and presentation of photographs. Overview of the population, habitat, environment and geography, culture and traditions of the region being studied. Special considerations of travel photography. Students must furnish camera, film or digital media, processing and presentation supplies. May be taken four times for credit. (CSU)

PHOT 91B ALTERNATIVE PROCESSES WORKSHOP: HANDCOLORING
Units: 0.5
Hours: 13 (7 lecture, 6 laboratory)
Intensive workshop exploring handcoloring black and white photographs. Topics include oils, hybrid digital and hand techniques, toning, and alternative handcoloring methodology. May be taken four times for credit. (CSU)
PHOT 91C ALTERNATIVE PROCESSES WORKSHOP: CYANOTYPE
Units: 0.5
Hours: 13 (7 lecture, 6 laboratory)
Intensive workshop exploring the cyanotype processes. Cyanotype is an historic non-silver photographic process which gives a blue image. May be taken four times for credit. (CSU)

PHOT 95 INTERNSHIP IN PHOTOGRAPHY
Units: 0.5-4
Designed for advanced students to work in an area related to their educational or occupational goal. Provides new on-the-job technical training under the direction of a worksite supervisor, allowing students to expand knowledge and skills in the chosen field. Mandatory orientation session and faculty approval to determine eligibility. Students may earn up to a total of 16 units in internship courses (any course numbered 95 and PDEV 94). (CSU—with unit limitation)

Physical Education and Athletics

BUSINESS, APPLIED ACADEMICS, AND PHYSICAL EDUCATION
DEAN: Luis Sanchez
DEAN OF ATHLETICS: John Volek
AREA OFFICE: Ft
LIAISON COUNSELORS: C. Epting-Davis, N. Martinis

The department provides the opportunity for individuals and groups to learn skills, develop total fitness, and participate in activities that provide carry-over interests, physiological results, and wholesome social interchange. Lower division curricula for majors is dependent upon California university and out-of-state university requirements.

TRANSFER MAJOR REQUIREMENTS in Health Education, Recreation, Physical Education, and Athletics are available in the Counseling Center. In all cases, students should consult with a counselor for specific transfer requirements.

Four-year graduates in Health Education, Recreation, Physical Education, and Athletics qualify for employment in private industry and recreational agencies and are prepared to seek teaching credentials in elementary or secondary education.

Letter codes for PHED athletics courses:
(W) indicates best suited for women;
(M) indicates best suited for men;
However, courses are open to all students.

PHYSICAL EDUCATION
A.A. OR A.S. DEGREE
The Physical Education A.A./A.S. degree provides students with the opportunity to meet the requirements for transferring to four-year colleges in the areas of Physical Education, Exercise Science, Kinesiology, and Athletic Training. The program in Physical Education outlined below is typical of lower-division requirements for four-year colleges and universities; some requirements vary from college to college. Students are advised to meet with a counselor before selecting courses for appropriate campus specific course requirements. Students must fulfill major requirements and all associate degree requirements for the A.A. or A.S. degree; see pages 42-43.

REQUIRED CORE COURSE: 

PHED 81 Introduction to Physical Education. 3

PLUS 9-10 UNITS FROM THE FOLLOWING:
BIOL 5 Human Anatomy OR
BIOL 7A Principles of Human Anatomy AND
BIOL 7B Principles of Human Anatomy 4-5
BIOL 6 Human Physiology 5
CHEM 2A Introduction to Chemistry 5

PLUS 6 UNITS FROM THE FOLLOWING:
BIOL 1 General Biology 4
BIOL 10 Introduction to Biology 3
HED 1 Standard First Aid/Community CPR 2
HED 2 Health Education 3
MATH 13 Elementary Statistics 4
NUT 10 Nutrition 3
PHED 83 Physiology of Fitness 3
PHYS 2A General Physics 4

PLUS 2-3 UNITS FROM THE FOLLOWING THEORY COURSES:
PHED 82 Sports Officiating 2-3
PHED 84 Care and Prevention of Athletic Injuries 3
PHED 88 Introduction to Coaching Team Sports 3
PHED 89A Theory of Baseball 2
PHED 89B Theory of Basketball 2
PHED 89C Theory of Softball 3
PHED 89D Theory of Track & Field 2
PHED 89F Theory of Football 2

PLUS 1-2 UNITS FROM THE FOLLOWING ACTIVITY COURSES:
PHED 5 Weight Training 5-2
PHED 7 Aerobic Fitness 5-2
PHED 9 Step Aerobic Training 5-2
PHED 10 Golf 5-2
PHED 16 Tennis 5-2
PHED 17 Body Sculpting 5-2
PHED 19 Mat Pilates 5-2
PHED 26 Volleyball 5-2
PHED 35 Lifeguard Training 2
PHED 36 Fundamental Swimming 5-2
Progressive resistance exercises with free weights and weight
Designed to educate students in the areas of aerobic and cardiorespiratory fitness as well as evaluate and improve present aerobic fitness level. Fitness machines are the main method of exercise. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 7 AEROBIC FITNESS
Units: 0.5-2
Hours: 36 theory and activity per unit
Creative exercises to promote a wide range of flexibility, muscular strength and endurance, and cardiovascular endurance. Includes a choreographed warm-up, aerobic segment, floor-work, and warm-down utilizing a variety of calisthenic and dance techniques and skills. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 8 AQUACISE
Units: 0.5-2
Hours: 36 theory and activity per unit
Designed to improve muscle tone and cardiovascular fitness. Exercises conducted in the water, utilizing the resistance of water against body movement. Strength and conditioning exercises are integrated with aerobic exercises so that students may have the potential for maximum benefit in a short time. Suitable for students with injuries or physical limitations. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 9 STEP AEROBIC TRAINING
Units: 0.5-2
Hours: 36 theory and activity per unit
An intense cardiovascular and muscular endurance workout utilizing an adjustable “step” for differing fitness levels choreographed to music to include: warm-up, cardiovascular step segment, floor work and flexibility warm-down. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 10 GOLF
Units: 0.5-2
Hours: 36 theory and activity per unit
Fundamental skills including use of all clubs. Covers nomenclature, rules, etiquette, and golf course participation. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 11 BADMINTON
Units: 0.5-2
Hours: 36 theory and activity per unit
Fundamental techniques of service, forehand and backhand strokes. Covers strategy of singles and doubles play, rules, and etiquette. Provides an opportunity for competition. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 12 TUMBLING AND GYMNASTICS
Units: 0.5-2
Hours: 36 theory and activity per unit
Tumbling and floor exercise, safety and spotting techniques. Routine tumbling skill development. May be taken four times for credit. (CSU, UC—with unit limitation)
PHED 13 CARDIO KICKBOXING  
Units: 0.5-2  
Hours: 36 theory and activity per unit  
An intense cardiovascular and muscular endurance workout utilizing boxing, calisthenics, Tai Chi, and QiGong for differing fitness levels choreographed to music to include: warm-up; cardiovascular kickboxing segment, floor work, self-defense and cool down. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 14 TAI CHI  
Units: 0.5-2  
Hours: 36 theory and activity per unit  
Ancient Chinese martial art that improves balance and co-ordination, promotes health, and reduces stress. Emphasizes meditation in motion and self-defense. Focus on mind/body harmony through balancing body energy (chi). May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 15 ARCHERY  
Units: 0.5-2  
Hours: 36 theory and activity per unit  
Fundamental skills of archery, including target archery, clout shooting, and use and care of equipment. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 16 TENNIS  
Units: 0.5-2  
Hours: 36 theory and activity per unit  
Fundamental techniques of service, forehand, and backhand. Covers strategy, rules, and etiquette. Provides an opportunity for competition in both singles and doubles play. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 17 BODY SCULPTING  
Units: 0.5-2  
Hours: 36 theory and activity per unit  
Designed to improve muscle tone and cardiovascular fitness. Focus on non-impact weight bearing exercises utilizing lightweight, high-repetition movements for maximum muscle toning. Aerobic exercises integrated with strength and conditioning exercises for maximum toning with cardiovascular benefits. Student must provide Yoga or Pilates “sticky” mat. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 19 MAT PILATES  
Units: 0.5-2  
Hours: 36 theory and activity per unit  
Designed to improve “core” muscles of the torso, improve posture, suppleness, and elongate the body. Targets back and abdominal muscle groups. Includes cardiovascular warm up, aerobic conditioning, strengthening exercises, and cool down. Student must provide Yoga or Pilates “sticky” mat. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 20 ULTIMATE FRISBEE  
Units: 0.5-2  
Hours: 36 theory and activity per unit  
Fundamental theory and practice of Ultimate Frisbee skills and knowledge including: the pull, passing techniques, receiving the disc, offensive patterns, defensive fundamentals, cardio-respiratory fitness, terminology, rules, philosophy, history and spirit of the game. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 22 FITNESS AND WEIGHT MANAGEMENT BOOT CAMP  
Units: 2-3  
Hours: 54 (18 lecture, 36 activity) 2 units; 72 (36 lecture, 36 activity) 3 units  
Assesses the student’s fitness (Cardiorespiratory fitness, muscular strength, muscular endurance, flexibility and body composition) and analyzes the information to employ a fitness, dietary and psychological program that will direct the student in achieving wellness goals in the areas of weight management and fitness. Accountability and goal setting monitored by the instructor as well as other students in the class. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 23 RECREATIONAL BASKETBALL  
Units: 0.5-2  
Hours: 36 theory and activity per unit  
Introduction to basketball as a recreational sport, designed to assist students in acquiring basic skills and increasing aerobic and anaerobic fitness levels, while actively participating in basketball activities. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 24 BOWLING  
Units: 0.5-2  
Hours: 36 theory and activity per unit  
Instruction and practice in fundamental techniques of bowling, including equipment selection, stance, delivery, scoring, strategy, and terminology. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 25 NORDIC SKIING  
Units: 1  
Hours: 36 theory and activity  
Instruction and practice in fundamental techniques of cross-country skiing. Emphasis on efficiency of movement, equipment selection and care, basic map reading, personal and group safety, and importance of hydration and appropriate clothing. May be taken four times for credit. (CSU, UC—with unit limitation)
PHED 26 VOLLEYBALL
Units: 0.5-2
Hours: 36 theory and activity per unit
Fundamental skills, rules, and strategy. Primary emphasis on the application of skills and strategy needed to play power volleyball. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 27 SOCCER
Units: 0.5-2
Hours: 36 theory and activity per unit
Fundamental theory and practice, including passing, dribbling, shooting, formations, and strategy. Primary emphasis on the application of skills, rules, and strategy in game play. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 28 INDEPENDENT STUDY
Units: 1-3
Designed for students interested in furthering their knowledge at an independent study level in an area where no specific curriculum offering is currently available. Independent study might include, but is not limited to, research papers, special subject area projects, and research projects. May be taken four times for credit. See Independent Study page in catalog. (CSU, UC—with unit limitation)

PHED 29 FLAG FOOTBALL
Units: 0.5-2
Hours: 36 theory and activity per unit
Fundamental theory and practice of flag football skills and knowledge including: passing, kicking, receiving, blocking, defending and rushing. Covers the strategy of team play, rules and etiquette. Provides the opportunity for skill development and competition. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 30 RUGBY
Units: 0.5-2
Hours: 36 theory and activity per unit
Designed for both men and women wishing to learn the physical needs and skills of Rugby. Primary emphasis on application of skills, rules, and strategy in game play. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 33 RECERTIFICATION FOR LIFEGUARD TRAINING & PROFESSIONAL RESCUE CPR
Units: 1
Prerequisite: Possession of a current Lifeguard Training Certificate
Hours: 24 (12 lecture, 12 activity)
Review of Lifeguard Training and CPR for the Professional Rescuer. Leads to recertification of American Red Cross Lifeguard Training and CPR for the Professional Rescuer. Certificates issued upon successful completion of Red Cross requirements. May be repeated for credit to meet legally mandated requirements. (not transferable)

PHED 35 LIFEGUARD TRAINING
Units: 2
Advisory: Candidates must demonstrate strong swimming skills
Hours: 54 (36 lecture, 18 activity)
Knowledge and skills necessary to keep patrons of aquatic facilities safe in and around water. American Red Cross Lifeguard Training, Waterfront Lifeguard, Head Lifeguard and CPR for the Professional Rescuer certificates issued upon successful completion of Red Cross requirements. (CSU, UC)

PHED 36 FUNDAMENTAL SWIMMING
Units: 0.5-2
Hours: 36 theory and activity per unit
Development of physical and mental adjustment to the water. For nonswimmers through advanced. Basic instruction in swimming, water safety skills, water entry and exit, and water exercises. Instruction and practice in developing aerobic fitness. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 39 SWIMMING CONDITIONING
Units: 0.5-2
Hours: 36 theory and activity per unit
Development of muscular and cardiovascular endurance. Instruction in distance training, interval training, water exercise, sprint training, stroke techniques and water games. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 40 SPRINGBOARD DIVING
Units: 0.5-2
Hours: 36 theory and activity per unit
Techniques for approach, takeoff, and required and optional dives from the one-meter and three-meter springboards. Covers safety measures, history, and basic diving rules. Stretching and conditioning exercises combined with work on the boards offers a well-rounded conditioning experience. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 42 WATER SAFETY INSTRUCTOR/INSTRUCTOR CANDIDATE TRAINING
Units: 2
Prerequisite: Possession of a current American Red Cross Swimmer Certificate or equivalent
Hours: 54 (36 lecture, 18 activity)
Methods of instruction in aquatic skills to include American Red Cross Water Safety and Swimming courses. American Red Cross Instructor Candidate Training, Water Safety Instructor and Fundamentals of Instructor Training certificates issued upon successful completion of Red Cross requirements. May be taken four times for credit. (CSU, UC)
PHED 51A FOLK DANCE
Formerly known as PHED 51
Units: 0.5-2
Hours: 36 theory and activity per unit
Study of worldwide folk dances offering a rich experiential insight into the cultures of other countries. Offers instruction in basic folk dance steps, styles and rhythms. Students will develop the skills necessary for dances from all over the world. May be taken four times for credit. (CSU, UC)

PHED 51B SQUARE DANCE
Formerly known as PHED 51
Units: 0.5-2
Hours: 36 theory and activity per unit
Introduction to square, round, and contra dancing. Includes development of rhythm and the history of the dances. May be taken four times for credit. (CSU, UC)

PHED 51C LINE DANCE
Formerly known as PHED 51
Units: 0.5-2
Hours: 36 theory and activity per unit
Basic skills in line dancing. Traditional, past and current dances will be taught. Includes development of rhythm and the history of social dances. May be taken four times for credit. (CSU, UC)

PHED 51D MODERN BALLROOM DANCE
Formerly known as PHED 51
Units: 0.5-2
Hours: 36 theory and activity per unit
Basic skills in social and ballroom dance steps, including Swing, Tango, Waltz, Fox Trot, Cha-Cha, Rumba, Mambo, and Samba. Includes development of rhythm and the history of social dances. May be taken four times for credit. (CSU, UC)

PHED 53 MODERN DANCE
Units: 0.5-2
Hours: 36 theory and activity per unit
Development and improvement in body alignment, flexibility, strength endurance, balance coordination, relaxation coordination and modern dance techniques so that the body can be used as an instrument of creative expression. May be taken four times for credit. (CSU, UC)

PHED 54 JAZZ DANCE
Units: 1-2
Hours: 36 theory and activity per unit
Fundamentals of jazz dance with emphasis on ballet basics, flexibility, coordination, weight transference, isolation, floor and barre work, including jazz history, composition basics, stylization, and improvisation. May be taken four times for credit. (CSU, UC)

PHED 55 FUNDAMENTALS OF YOGA
Units: 0.5-2
Hours: 36 theory and activity per unit
Development of basic Yoga postures, breathing practices, stretching, and relaxation techniques as a method to improve flexibility, decrease stress and improve physical and mental well-being. Students may take PHED 55 and 57 combined a maximum of four times for credit. (CSU, UC—with unit limitation)

PHED 56A BALLET I
Formerly known as PHED 56
Units: 0.5-2
Hours: 36 theory and activity per unit
Introduction to fundamentals of classical ballet focusing on the development of technique through proper alignment, flexibility and strength. Elements of history, terminology and appreciation of ballet as an art form will be explored. Students may take PHED 56A and 56B combined a maximum of four times for credit. (CSU, UC)

PHED 56B BALLET II
Units: 0.5-2
Advisory: Completion of PHED 56A or equivalent recommended
Hours: 36 theory and activity per unit
A continuation of classical ballet training, exploring elements of ballet history, musicality, terminology, technique, and performance. Pointe technique and character dance will also be presented. Students may take PHED 56A and 56B combined a maximum of four times for credit. (CSU, UC)

PHED 57 DEVELOPING A PERSONAL YOGA PRACTICE
Units: 0.5-2
Prerequisite: Completion of PHED 55 or equivalent
Hours: 36 theory and activity per unit
Proficiency in Yoga postures, breathing exercises, and concentration techniques including advanced positions and increased endurance. Students may take PHED 55 and PHED 57 a combined maximum of four times for credit. (CSU, UC—with unit limitation)

PHED 58 CONTEMPORARY HATHA YOGA STYLES
Units: 1.5
Prerequisite: Completion of PHED 55 and PHED 57
Hours: 36 (18 lecture, 18 activity)
Designed to explore the many styles of contemporary hatha yoga practice: traditional, continuous, power, and aerobic. Focus on the elements within each style and their link to their philosophical origin. Students required to design and lead a yoga session reflective of each style. (CSU, UC—with unit limitation)
PHED 59 TEACHING YOGA TO SPECIAL POPULATIONS  
Units: 1.5  
Prerequisite: Completion of PHED 55 and PHED 57  
Hours: 36 (18 lecture, 18 activity)  
Designed to explore the ways in which the practice of hatha yoga may be adapted to teaching populations with special needs. Students required to create customized sessions taking into account specific given needs. (CSU)

PHED 60 INTRODUCTION TO THE YOGA TRADITION  
Units: 2  
Hours: 36 lecture  
Discussion of the traditional principles of Yoga and how its practices have been brought to the West. (not transferable)

PHED 64 MARTIAL ARTS: JUIJITSU  
Units: 0.5-2  
Hours: 36 theory and activity per unit  
Explores Jujitsu as the predecessor of Judo. Focus on Japanese customs, martial arts culture, nerve and pressure points, and controlling an attacker without injury. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 65 MARTIAL ARTS: KENPO KARATE  
Units: 0.5-2  
Hours: 36 theory and activity per unit  
Modern fighting art, featuring a vast array of open handed and weapons techniques, katas, and kumite techniques. Teaches focus and coordination, as well as mental and physical discipline. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 66 COMBATIVE SELF DEFENSE  
Units: 1-2  
Hours: 36 theory and activity per unit  
Hand-to-hand combat for self defense. Emphasis on disarming and immobilizing an assailant; includes martial arts such as Kenju Do. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 67 HOW TO TEACH YOGA  
Units: 2  
Prerequisite: Completion of PHED 57 and PHED 68  
Hours: 36 lecture  
Designed for future yoga teachers. Teaching of techniques, ethics of teaching, teacher/student relationship, and yoga as a vocation. (not transferable)

PHED 68 INTRODUCTION TO MEDITATION  
Units: 0.5-2  
Hours: 36 theory and activity per unit  
Exploration of the body/mind connection through techniques of visualization, affirmation, concentration and meditation. May be taken four times for credit. (CSU)

PHED 69 PEACEFUL SELF DEFENSE  
Units: 0.5-2  
Hours: 36 theory and activity per unit  
Introduction to fundamental principles, concepts, and theories of the original martial arts. Class includes basic self-defense, non violent self defense strategies, cardio conditioning, strength building exercises, flexibility training, nutrition, deep relaxation, meditation, with a focus on mind-body connection as it pertains to the art of physical combat. Benefits students of all skill levels. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 70 SWIMMING FITNESS FOR SENIORS  
Units: 0.5-2  
Advisory: Physicians approval recommended for participation  
Hours: 36 theory and activity per unit  
Swimming fitness program based on principles of aerobic training, flexibility and muscle endurance for seniors. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 71 ADAPTIVE PHYSICAL EDUCATION  
Units: 0.5-2  
Advisory: Physician’s approval recommended for participation  
Hours: 36 theory and activity per unit  
An activity course to meet the needs of disabled persons, giving attention to their emotional, social, and physical drives through group physical activities. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 72 INDIVIDUALIZED EXERCISES  
Units: 0.5-2  
Advisory: Physician’s approval recommended for participation  
Hours: 36 theory and activity per unit  
Designed for students having difficulty with ambulation, balance, and/or motor skills. Individualized exercise programs based on the student’s physical abilities, physician’s recommendation, and student’s personal goals. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 73 ADAPTIVE AQUATICS  
Units: 0.5-2  
Advisory: Physician’s approval recommended for participation  
Hours: 36 theory and activity per unit  
For physically limited individuals, providing individually prescribed exercises, adaptive and/or modified swimming, and exercises designed to improve cardiovascular endurance. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 74 ADAPTIVE AEROBIC FITNESS  
Units: 0.5-2  
Advisory: Physician’s approval recommended for participation  
Hours: 36 theory and activity per unit  
Aerobic fitness training for individuals with disabilities. Emphasis on improving individual levels of aerobic fitness through the use of fitness machines. Class activities adapted and modified to meet individual needs. May be taken four times for credit. (CSU, UC—with unit limitation)
PHED 75 ADAPTIVE WALK/JOG
Units: 1
Advisory: Physician’s approval recommended for participation
Hours: 36 theory and activity per unit
Walking/Jogging for people with permanent or short-term disabilities. Emphasis on walking/jogging techniques, aerobic conditioning, program development, nutrition, proper workout attire and safety. May be taken four times for credit. (CSU, UC)

PHED 79 AIKIDO
Units: 0.5-2
Hours: 36 theory and activity per unit
Introduction to fundamental principles and techniques of Aikido, a Japanese martial art based on non-aggressive resolution of conflict. Focuses on mind-body connection, harmony and natural movements; effective regardless of size or strength. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 80 MULTI SELF DEFENSE SYSTEM
Units: 0.5-2
Hours: 36 theory and activity per unit
A multi combat self defense system combining different types of martial arts, such as Escrima (stick and knife fighting) from the Philippines, Jujitsu, and Kenpo. Focus on teaching application of principles leading to utilizing ordinary items to help defend oneself. Emphasis on strengthening the body and improving endurance. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 81 INTRODUCTION TO PHYSICAL EDUCATION
Units: 3
Hours: 54 lecture
Designed for physical education majors and minors. Survey of the basic principles in physical education. Emphasizes the study of one’s own competencies in relation to requirements of the profession. (CSU, UC)

PHED 82 SPORTS OFFICiating
Units: 2-3
Hours: 54 (36 lecture, 18 laboratory) 2 units; 81 (54 lecture, 27 laboratory) 3 units
Officiating team and individual sports. Emphasizes officiating concepts, skills, fundamentals and etiquette of Basketball, Baseball/Softball, Volleyball and Soccer. (CSU, UC—with unit limitation)

PHED 83 PHYSIOLOGY OF FITNESS
Units: 3
Hours: 54 lecture
Introduction to physiological adaptations to exercise, with considerations of the bio-physical values of exercise in maintaining fitness throughout an individual’s life span. Designed to teach principles of cardiovascular endurance and proper weight control by engaging students in personal fitness through writing of their own individual programs. (CSU, UC—with unit limitation)

PHED 84 CARE AND PREVENTION OF ATHLETIC INJURIES
Units: 3
Hours: 54 lecture
Introduction to athletic training and sports medicine. Topics covered include injury evaluation and rehabilitation, emergency medicine, and taping techniques. (CSU, UC)

PHED 85 TECHNIQUES OF FITNESS INSTRUCTION
Units: 3
Hours: 72 (36 lecture, 36 activity)
Methods of instruction in leading group exercise in health clubs, resorts, institutions, corporate programs or medically supervised exercise programs. Includes music movement choreography, communication and cueing, practical application of kinesiology and muscle physiology to design class formats in aerobics, step, slide, muscle conditioning, water fitness, stretch, Yoga and fitness walking programs. (CSU)

PHED 86 PSYCHOLOGY OF SPORT
Units: 3
Hours: 54 lecture
Open to all students interested in sport performance issues. Emphasizes individual skills and coaching techniques necessary in the area of sport psychology. (CSU)

PHED 87 CROSS TRAINING
Units: 2
Hours: 54 (18 lecture, 36 activity)
Daily physical fitness training utilizing aerobic and anaerobic training methods including: swim workouts, resistance training, stationary exercise equipment and running. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 88 INTRODUCTION TO COACHING TEAM SPORTS
Units: 3
Hours: 54 lecture
Designed for students interested in coaching team sports. Emphasizes the components of team concepts and the organizational skills needed to implement and conduct a team sport program. (CSU, UC—with unit limitation)

PHED 89A THEORY OF BASEBALL
Units: 2
Hours: 36 lecture
Study and analysis of competitive baseball. Emphasis on defense, offense, pitching, baserunning, and team strategy. Designed for students with previous baseball experience and/or desire to coach baseball at any level. (CSU, UC—with unit limitation)
PHED 89B THEORY OF BASKETBALL
Units: 2
Hours: 36 lecture
Study and analysis of competitive basketball. Emphasis on defense, offense, individual and team skill development, rules and games preparation and strategy. Designed for students with previous basketball experience and/or the desire to coach basketball at any level. (CSU, UC—with unit limitation)

PHED 89C THEORY OF SOFTBALL
Units: 3
Hours: 54 lecture
Study and analysis of competitive softball. Emphasis on defense, offense, pitching, baserunning, team strategies, stats recording and scorekeeping. Designed for students with softball experience and/or the desire to coach softball at any level. (CSU, UC—with unit limitation)

PHED 89D THEORY OF TRACK & FIELD
Units: 2
Hours: 36 lecture
Study and analysis of competitive track and field. Emphasis on each event’s biomechanics, training techniques, and strategies to achieve desired results for the competitor and coach. Designed for students with track and field experience and/or the desire to coach track and field at any level. (CSU, UC—with unit limitation)

PHED 89F THEORY OF FOOTBALL
Units: 2
Hours: 36 lecture
Study and analysis of football. Emphasis on defense, offense, special teams and strategies. Designed for students with previous football experience and/or the desire to coach football at any level. (CSU, UC—with unit limitation)

PHED 93 SPORTS ACTIVITIES
Units: 0.5-2
Hours: 36 theory and activity per unit
Intra-class competition in group activities such as basketball, flag football, volleyball, and softball. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 94 INTRAMURAL ATHLETICS
Units: 0.5-2
Hours: 36 theory and activity per unit
Organized competition for school championships in a variety of sports. FALL: Flag Football, Volleyball, and Basketball. SPRING: Basketball, Volleyball, and Softball. Individual and dual sports championships also awarded in Badminton, Tennis, Golf, Archery, and a variety of other activities. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 96 WATER SAFETY
Units: 0.5
Hours: 18 theory and activity
Knowledge and skills to prevent and overcome hazardous situations in and near the water. Includes use of self-help and survival techniques, methods of water rescues, personal flotation devices, small craft safety, use of equipment, and spinal injury management. (CSU, UC—with unit limitation)

PHED 101 FOOTBALL TRAINING
Units: 0.5-2
Hours: 36 theory and practice per unit
Stresses training methods, skills, knowledge, and appreciation. Students preparing for a season of intercollegiate, A.A.U. Club, or tournament activity encouraged to enroll. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 102 BASEBALL TRAINING
Units: 0.5-2
Hours: 36 theory and practice per unit
Stresses training, skills, knowledge, and appreciation. Students preparing for a season of intercollegiate, A.A.U. Club, Legion, or tournament activity are encouraged to enroll. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 103 GOLF TRAINING
Units: 0.5-2
Hours: 36 theory and practice per unit
Stresses training, skills, knowledge, strategy, and appreciation. Students preparing for a season of intercollegiate competition encouraged to enroll. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 104 TENNIS TRAINING
Units: 1-3
Hours: 36 theory and practice per unit
Stresses training, skills, knowledge, strategy, and appreciation. Students preparing for a season of intercollegiate, A.A.U. Club, or tournament activity are encouraged to enroll. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 105 TRACK TRAINING
Units: 0.5-2
Hours: 36 theory and practice per unit
Stresses physical training, skills, knowledge, and appreciation of track and field events. Students preparing for a season of intercollegiate competition are encouraged to enroll. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 106 BASKETBALL TRAINING
Units: 0.5-2
Hours: 36 theory and practice per unit
Stresses training, skills, knowledge, strategy, and appreciation. Students preparing for a season of intercollegiate, A.A.U. Club or tournament activity encouraged to enroll. May be taken four times for credit. (CSU, UC—with unit limitation)
PHED 107 SWIMMING TRAINING
Units: 0.5-2
Hours: 36 theory and practice per unit
Stresses training, skills, knowledge, strategy, and appreciation of competitive swimming. Students preparing for a season of intercollegiate, club, or triathlon activity are encouraged to enroll. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 108 WATER POLO TRAINING
Units: 0.5-2
Hours: 36 theory and practice per unit
Stresses training, skills, knowledge, strategy, and appreciation for competition. Recommended for students preparing for a season of intercollegiate or A.A.U. Club activity. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 110 VOLLEYBALL TRAINING
Units: 0.5-2
Hours: 36 theory and practice per unit
Stresses training, skills, knowledge, strategy, and appreciation. Students preparing for a season of intercollegiate, A.A.U. Club, or tournament activity encouraged to enroll. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 111 SOFTBALL TRAINING
Units: 1-2
Hours: 36 theory and practice per unit
Stresses training, skills, knowledge, strategy, and appreciation of Intercollegiate Softball. Students preparing for a season of intercollegiate, A.A.U. Club, or tournament activity encouraged to enroll. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 112 WRESTLING TRAINING
Units: 1-2
Hours: 36 theory and practice per unit
Emphasis on training, techniques, knowledge, and appreciation of intercollegiate, freestyle, or tournament wrestling. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 113 SKI TRAINING
Units: 1-2
Hours: 36 theory and practice per unit
Training, skills, knowledge, strategy, and appreciation of ski racing. Students preparing for a season of intercollegiate, USSA, USCSA, or club activity are encouraged to enroll. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 114 CHEERLEADING TRAINING
Units: 1-2
Hours: 36 theory and practice per unit
Includes warm-up, flexibility, strength and conditioning, technical skills and choreography of cheerleading, dance, stunting and tumbling for performance and entertainment. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 115 CROSS COUNTRY TRAINING
Units: 0.5-2
Hours: 36 theory and practice per unit
Stresses knowledge of running training skills, strategy, and appreciation for developing improved fitness and self awareness through distance training. Includes preparation for competition from intercollegiate level to club or tournament races, or for personal improvement. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 116 SOCCER TRAINING
Units: 0.5-2
Hours: 36 theory and practice per unit
Stresses technical skills, fitness, knowledge and appreciation of soccer. Students preparing for a season of intercollegiate competition, Select and Elite Soccer Clubs, or United States Soccer Federation (USSF) teams are encouraged to enroll. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 122 INTERCOLLEGIATE VOLLEYBALL (W)
Units: 1-3
Advisory: Recommended for women
Hours: 60 laboratory per unit
Intercollegiate volleyball competition conducted through the California Commission on Athletics rules. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 123 INTERCOLLEGIATE BASKETBALL (W)
Units: 1-3
Advisory: Recommended for women, men see PHED 143
Hours: 60 laboratory per unit
Intercollegiate basketball competition conducted through NCAA and California Commission on Athletics rules. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 124 INTERCOLLEGIATE SOCCER (W)
Units: 1-3
Advisory: Recommended for women
Hours: 60 laboratory per unit
Intercollegiate soccer competition conducted through NCAA and California Commission on Athletics rules. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 125 INTERCOLLEGIATE SKIING (W)
Units: 1-3
Advisory: Recommended for women, men see PHED 144
Hours: 60 laboratory per unit
Intercollegiate skiing competition conducted through United States Collegiate Association rules. May be taken four times for credit. (CSU, UC—with unit limitation)
PHED 126 INTERCOLLEGIATE CROSS COUNTRY (W)
Units: 1-3
Advisory: Recommended for women, men see PHED 141
Hours: 60 laboratory per unit
Stresses event-specific training, skill development, knowledge of and appreciation for cross country. Students preparing for or competing in a season of intercollegiate competition encouraged to enroll. NCAA and California Commission on Athletics rules emphasized. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 127 INTERCOLLEGIATE GOLF (W)
Units: 1-3
Advisory: Recommended for women, men see PHED 162
Hours: 60 laboratory per unit
Intercollegiate golf competition conducted through NCAA and California Commission on Athletics rules. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 131 INTERCOLLEGIATE SOFTBALL (W)
Units: 1-3
Advisory: Recommended for women, men see PHED 161
Hours: 60 laboratory per unit
Intercollegiate softball competition conducted through NCAA and California Commission on Athletics rules. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 132 INTERCOLLEGIATE TENNIS (W)
Units: 1-3
Advisory: Recommended for women, men see PHED 163
Hours: 60 laboratory per unit
Intercollegiate tennis competition conducted through NCAA and California Commission on Athletics rules. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 133 INTERCOLLEGIATE TRACK (W)
Units: 1-3
Advisory: Recommended for women, men see PHED 164
Hours: 60 laboratory per unit
Stresses event-specific training, skill development, knowledge of and appreciation for track and field. Students preparing for or competing in a season of intercollegiate competition encouraged to enroll. NCAA and California Commission on Athletics rules emphasized. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 134 INTERCOLLEGIATE SWIMMING (W)
Units: 1-3
Advisory: Recommended for women, men see PHED 165
Hours: 60 laboratory per unit
Intercollegiate swimming and diving competition conducted through NCAA and California Commission on Athletics rules. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 137 INTERCOLLEGIATE WATER POLO (W)
Units: 1-3
Advisory: Recommended for women, men see PHED 146
Hours: 60 laboratory per unit
Intercollegiate water polo competition conducted through NCAA and California Commission on Athletics rules. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 141 INTERCOLLEGIATE CROSS COUNTRY (M)
Units: 1-3
Advisory: Recommended for men, women see PHED 126
Hours: 60 laboratory per unit
Intercollegiate cross country competition conducted through NCAA and California Commission on Athletics rules. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 142 INTERCOLLEGIATE FOOTBALL (M)
Units: 1-3
Advisory: Recommended for men
Hours: 60 laboratory per unit
Intercollegiate football competition conducted through NCAA and California Commission on Athletics rules. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 143 INTERCOLLEGIATE BASKETBALL (M)
Units: 1-3
Advisory: Recommended for men, women see PHED 123
Hours: 60 laboratory per unit
Intercollegiate basketball competition conducted through NCAA and California Commission on Athletics rules. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 144 INTERCOLLEGIATE SKIING (M)
Units: 1-3
Advisory: Recommended for men, women see PHED 125
Hours: 60 laboratory per unit
Intercollegiate skiing competition conducted through the United States Collegiate Ski Association. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 145 INTERCOLLEGIATE WRESTLING (M)
Units: 1-3
Advisory: Recommended for men
Hours: 60 laboratory per unit
Intercollegiate wrestling competition conducted through NCAA and California Commission on Athletics rules. May be taken four times for credit. (CSU, UC—with unit limitation)
PHED 146 INTERCOLLEGIATE WATER POLO (M)
Units: 1-3
Advisory: Recommended for men, women see PHED 137
Hours: 60 laboratory per unit
Intercollegiate water polo competition conducted through NCAA and California Commission on Athletics rules. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 161 INTERCOLLEGIATE BASEBALL (M)
Units: 1-3
Advisory: Recommended for men, women see PHED 131
Hours: 60 laboratory per unit
Intercollegiate baseball competition conducted through NCAA and California Community College Athletic Association (CCCAA) rules. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 162 INTERCOLLEGIATE GOLF (M)
Units: 1-3
Advisory: Recommended for men, women see PHED 127
Hours: 60 laboratory per unit
Intercollegiate golf competition conducted through NCAA and California Commission on Athletics rules. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 163 INTERCOLLEGIATE TENNIS (M)
Units: 1-3
Advisory: Recommended for men, women see PHED 132
Hours: 60 laboratory per unit
Intercollegiate tennis competition conducted through NCAA and California Commission on Athletics rules. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 164 INTERCOLLEGIATE TRACK (M)
Units: 1-3
Advisory: Recommended for men, women see PHED 133
Hours: 60 laboratory per unit
Stresses sport-specific training, skill development, knowledge of and appreciation for track and field. Students preparing for or competing in a season of intercollegiate competition encouraged to enroll. NCAA and California Commission on Athletics rules emphasized. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 165 INTERCOLLEGIATE SWIMMING (M)
Units: 1-3
Advisory: Recommended for men, women see PHED 134
Hours: 60 laboratory per unit
Intercollegiate swimming and diving competition conducted through NCAA and California Commission on Athletics rules. May be taken four times for credit. (CSU, UC—with unit limitation)

PHED 200 FIRE ACADEMY PHYSICAL TRAINING
Units: 2.5
Corequisite: Concurrent enrollment in FIRE 100
Hours: 80 (28 lecture, 52 laboratory)
Designed for Firefighter Academy Trainees, emphasizing lifetime fitness, principles of physical fitness, individual fitness programs, managing body composition, stress indicators and management, nutrition, and development of muscular strength and cardiovascular efficiency. (CSU)

PHED 300 SELECTED TOPICS IN PHYSICAL EDUCATION
Units: 0.5-4
Courses of study will cover topics relevant to the discipline. Topics will vary. Course content and unit credit to be determined by the division. May be offered as seminar, lecture, or lecture/laboratory classes. Students may repeat “300” courses within a discipline only when a topic is different from previously completed course. See Selected Topics page in catalog. (CSU, UC—with unit limitation)

PHED 808 FITNESS OPTIONS FOR OLDER ADULTS
Units: 0
Hours: 8 lecture
Overviews, definition and components of physical fitness and introduces participants to a wide range of flexibility, muscular strength, and endurance exercises with a low impact emphasis. Includes concepts related to optimum aging: bone density testing, joint flexibility, nutrition basics, and alternative exercise strategies for those with particular physical challenges. Community exercise resources for improvement and/or maintenance are presented. May be repeated. (noncredit)

PHED 809 MEDITATION FOR MODERN LIVING
Units: 0
Hours: 8 lecture
Presentation and practice of tools for countering the effects of modern life such as anxiety and poor health. Emphasis on techniques of conscious breathing for calming and centering the mind and concentration techniques for developing clarity of mind. May be repeated. (noncredit)
Physics

SClENCES & MATHEMATICS
DEAN: Heather Roberts
ASSOCIATE DEAN: Michael Kane
DIVISION OFFICE: V 211
FACULTY: D. Calabrese, D. Harris, A. Shackell
LIAISON COUNSELORS: C. Axton, C. West

The Physics Department offers coursework satisfying the needs of students wishing to transfer to four-year colleges and other institutions for further study in science and engineering. Those students wishing a basic background in Physics for study in the many fields based upon science and careers in teaching, medicine, agriculture and other sciences will also find coursework.

TRANSFER MAJOR REQUIREMENTS in Physics are available in the Counseling Center. In all cases, students should consult with a counselor for specific transfer requirements. Four-year graduates in Physics are qualified for positions in research, teaching, engineering, medicine and industry.

PHYSICS
A.S. DEGREE
The Physics major recognizes a concentration in the field of Physics. Successful completion of the curriculum in Physics and the associated electives prepare Physics students for transfer to four-year colleges or universities. Students must fulfill major requirements and all associate degree requirements for the A.S. degree; see pages 42-43.

REQUIRED COURSES

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Units</th>
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<tbody>
<tr>
<td>PHYS 4A Principles of Physics: Mechanics</td>
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</tr>
<tr>
<td>PHYS 4B Principles of Physics: Electricity and Magnetism</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 4C Principles of Physics: Heat, Waves, and Modern Physics</td>
<td>4</td>
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PLUS 3 COURSES FROM:

<table>
<thead>
<tr>
<th>Course Description</th>
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<tbody>
<tr>
<td>MATH 30 Analytical Geometry and Calculus</td>
<td>4-5</td>
</tr>
<tr>
<td>MATH 31 Analytical Geometry and Calculus</td>
<td>4-5</td>
</tr>
<tr>
<td>MATH 32 Analytical Geometry and Calculus</td>
<td>4</td>
</tr>
<tr>
<td>MATH 33 Differential Equations and Linear Algebra</td>
<td>6</td>
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</tbody>
</table>

TOTAL UNITS REQUIRED: 25-29

Recommended Electives: CHEM 1B, 5; ENGR 17, 17L, 35, 45; CIS 50, 60, 70, 80, 90

Physics Courses

PHYS A FOUNDATIONS OF COLLEGE PHYSICS

Units: 3
Prerequisite: Completion of or concurrent enrollment in MATH 8 or equivalent with a grade of “C” or better
Advisory: Completion of ENGL 50, or eligibility for ENGL 11, or equivalent strongly recommended
Hours: 54 lecture

Intended to prepare students for PHYS 2A and 4A. Focuses on measurement, relevant mathematical concepts, problem-solving, and a variety of concepts in physics. (not transferable)

PHYS 2A GENERAL PHYSICS

Units: 4
Prerequisite: Completion of MATH 8, high school trigonometry or equivalent with grade of “C” or better
Advisory: Eligibility for ENGL 11 or equivalent strongly recommended
Hours: 108 (54 lecture, 54 laboratory)

Noncalculus introduction to the principles of mechanics, properties of matter and heat. Emphasis on applications relevant to several majors, including premedical, predental, optometry, forestry, architecture, and biological science. (CSU, UC—with unit limitation)

PHYS 2B GENERAL PHYSICS

Units: 4
Prerequisite: Completion of PHYS 2A with grade of “C” or better or equivalent
Hours: 108 (54 lecture, 54 laboratory)

Noncalculus introduction to the principles of waves, sound, light, electricity, magnetism, and modern physics. Emphasis on applications relevant to several majors, including premedical, predental, optometry, forestry, architecture, and biological science. (CSU, UC—with unit limitation)

PHYS 2X PROBLEM SOLVING FOR PHYSICS 2A

Units: 1
Corequisite: Concurrent enrollment in PHYS 2A
Hours: 18 lecture

Optional problem solving course to accompany PHYS 2A. Includes kinematics, dynamics, energy, momentum, fluids and thermodynamics. (CSU)

PHYS 2Y PROBLEM SOLVING FOR PHYSICS 2B

Units: 1
Corequisite: Concurrent enrollment in PHYS 2B
Hours: 18 lecture

Optional problem solving course to accompany PHYS 2B. Includes sound, light, electricity, magnetism and modern physics. (CSU)
PHYS 4A PRINCIPLES OF PHYSICS: MECHANICS
Units: 5
Prerequisite: Completion of MATH 30, MATH 31 (MATH 31 may be taken concurrently), and PHYS A with grades of "C" or better, or equivalent
Advisory: Eligibility for ENGL 11 or equivalent strongly recommended
Hours: 126 (72 lecture, 54 laboratory)
Calculus-based introduction to the principles of kinematics, dynamics, energy, momentum, rotational motion, gravitation and fluids. The 4A-B-C sequence presents the general principles and analytical methods used in physics for physical science and engineering majors. (CSU, UC—with unit limitation)

PHYS 4B PRINCIPLES OF PHYSICS: ELECTRICITY AND MAGNETISM
Units: 4
Prerequisite: Completion of PHYS 4A and MATH 31 with grades of "C" or better
Advisory: Eligibility for ENGL 11 or equivalent strongly recommended
Hours: 108 (54 lecture, 54 laboratory)
Maxwell’s Equations, AC and DC circuits, electromagnetic waves, and magnetic properties of matter. The 4A-B-C sequence presents general principles and analytical methods used in physics for physical science and engineering majors. (CSU, UC—with unit limitation)

PHYS 4C PRINCIPLES OF PHYSICS: HEAT, WAVES AND MODERN PHYSICS
Units: 4
Prerequisite: Completion of PHYS 4A and MATH 31 with grades of "C" or better
Advisory: Completion of ENGL 50, or eligibility for ENGL 11, or equivalent strongly recommended
Hours: 108 (54 lecture, 54 laboratory)
Thermodynamics, kinetic theory of gases, waves, geometrical and physical optics, sound, and modern physics. The 4A-B-C sequence presents general principles and analytical methods used in physics for physical science and engineering majors. (CSU, UC—with unit limitation)

PHYS 4Y PROBLEM SOLVING FOR PHYSICS 4B
Units: 1
Corequisite: Concurrent enrollment in PHYS 4B
Hours: 18 lecture
Optional problem solving course to accompany PHYS 4B. Includes electric forces and fields, electrical potential, capacitors and dielectrics, magnetism, electromagnetic waves, and DC and AC circuits. (CSU, UC—with limitation)

PHYS 4Z PROBLEM SOLVING FOR PHYSICS 4C
Units: 1
Corequisite: Concurrent enrollment in PHYS 4C
Hours: 18 lecture
Optional problem solving course to accompany PHYS 4C. Includes thermodynamics, mechanical waves, optics, and modern physics. (CSU, UC—with limitation)

PHYS 10 BASIC CONCEPTS IN PHYSICS
Units: 3
Prerequisite: Completion of MATH A or equivalent with grade of "C" or better
Advisory: Eligibility for ENGL 11 or equivalent strongly recommended
Hours: 54 lecture
Introduction to the laws of motion, properties of matter, heat, sound, electricity, magnetism, light, atomic and nuclear physics, and relativity. Emphasis is on familiar phenomena in everyday life. Intended for nonscience majors. (CSU, UC—with unit limitation)

PHYS 11 PHYSICAL SCIENCE LABORATORY
Units: 1
Prerequisite: Concurrent enrollment in PHYS 10 or completion of PHYS 10 with a grade of "C" or better
Advisory: Eligibility for ENGL 11 or equivalent strongly recommended
Hours: 54 laboratory
An optional laboratory course taken in conjunction with PHYS 10. Integrates abstract concepts from PHYS 10 into concrete applications through experimentation. (CSU, UC—with unit limitation)

PHYS 28 INDEPENDENT STUDY
Units: 1-3
Designed for students interested in furthering their knowledge at an independent study level in an area where no specific curriculum offering is currently available. Independent study might include, but is not limited to, research papers, special subject area projects, and research projects. May be taken four times for credit. See Independent Study page in catalog. (CSU, UC—with unit limitation)
The Political Science curriculum is designed to instruct students in the study of society as it relates to the political formation of values, myths and folkways, as well as to describe the way in which political systems function in the realm of power confrontation and decision making abilities.

TRANSFER MAJOR REQUIREMENTS in Political Science are available in the Counseling Center. In all cases, students should consult with a counselor for specific transfer requirements. Four-year graduates in Political Science are qualified for staff and management positions in local, state and federal government as well as business and industry. Many work as lobbyists, journalists, and in public relations.

Political Science Courses

POLS 1 AMERICAN GOVERNMENT
Units: 3
Hours: 54 lecture
Introduction to the principles and problems of the American political system on national, state, and local levels. Includes discussion of the Constitution, political parties, executive, legislative, and judicial branches of the government. Other topics include political behavior, voting patterns, interest group interaction, decision and conflict roles within the system. (CSU, UC)

POLS 2 COMPARATIVE GOVERNMENT
Units: 3
Hours: 54 lecture
Compares the major political systems of selected countries of the world, both Autocratic and Democratic. Particular emphasis is placed on advanced industrial democracies. Comparison includes the origins and development of governments, their constitutional principles, political ideologies, institutions, parties, and social policies. (CSU, UC)

POLS 3 INTERNATIONAL RELATIONS
Units: 3
Hours: 54 lecture
Introduction to the political relations between governments and other global actors. Examination of theories and concepts that help to explain conflict and cooperation in a range of issue areas. (CSU, UC)

POLS 4 RUSSIAN AND EAST EUROPEAN POLITICAL SYSTEMS
Units: 3
Hours: 54 lecture
Comparison of Russian government and politics with that of other Eastern European states. Discussion of the past imperial and communist systems. Focus on social and political actors, decision-making institutions and their issues. (CSU, UC)

POLS 7 POLITICS OF THE DEVELOPING WORLD—THIRD WORLD POLITICS
Units: 3
Hours: 54 lecture
Study of revolution and political changes of selected countries in the Developing World/Global South focusing on historical experiences of European and American imperialism and colonialism. Major emphasis on popular movements of self-determination and conflicts between traditional indigenous values and non-traditional Western ideology. Contemporary case studies include Latin America, Africa, and Asia. (CSU, UC)

POLS 8 AMERICAN FOREIGN POLICY
Units: 3
Hours: 54 lecture
Overview of American diplomatic history and the politics of foreign policy formation and implementation. Survey of contemporary issues confronting the U.S. (CSU, UC)

POLS 9 POLITICS OF THE MIDDLE EAST
Units: 3
Hours: 54 lecture
An introduction to the politics and political systems of the Middle East. Focuses on the influence of colonialism, nationalism and Islam on forms of government, social turmoil and international conflicts. (CSU, UC)

POLS 12 TERRORISM
Units: 3
Hours: 54 lecture
Overview of terrorism, including history, motives, and political impact. Implications of counterterrorism policies. (CSU, UC)

POLS 16 INTRODUCTION TO POLITICAL THEORY
Units: 3
Hours: 54 lecture
Survey of ideologies relevant to contemporary government and politics. Focus on understanding many different sets of ideas motivating and legitimating political processes. Deliberate examination of values underlying arguments and institutions, permitting a critical examination of key theories and concepts. (CSU, UC)
POL S 27 WOMEN AND POLITICS IN A GLOBAL SOCIETY
Units: 3
Hours: 54 lecture
Exploration of past and current influences on the political and legal status of women as well as women's participation in the political process throughout the world. Includes political theory and strategy as it relates to women. (CSU, UC)

POL S 28 INDEPENDENT STUDY
Units: 1-3
Designed for students interested in furthering their knowledge at an independent study level in an area where no specific curriculum offering is currently available. Independent study might include, but is not limited to, research papers, special subject area projects, and research projects. May be taken four times for credit. See Independent Study page in catalog. (CSU, UC—with unit limitation)

POL S 300 SELECTED TOPICS IN POLITICAL SCIENCE
Units: 0.5-4
Courses of study will cover topics relevant to the discipline. Topics will vary. Course content and unit credit to be determined by the division. May be offered as seminar, lecture, or lecture/laboratory classes. Students may repeat “300” courses within a discipline only when a topic is different from previously completed course. See Selected Topics page in catalog. (CSU, UC—with unit limitation)

Psychology

LIBERAL ARTS
DEAN: Debra Sutphen
ASSOCIATE DEAN: Rebecca Bocchicchio
DIVISION OFFICE: W 107
LIAISON COUNSELORS: C. Axtom, S. Muraki

Psychology is the scientific discipline concerned with the study of behavior. Courses are designed to give students academic preparation in several areas of Psychology while concurrently providing material that can be usefully applied to their own lives.

TRANSFER MAJOR REQUIREMENTS in Psychology are available in the Counseling Center. In all cases, students should consult with a counselor for specific transfer requirements. Four-year graduates in Psychology are qualified for careers in probation, juvenile counseling, rehabilitation, and several other fields in the private sector and in government agencies that relate to the helping services.

PSYCHOLOGY
A.A. OR A.S. DEGREE
The Psychology major provides preparation for upper-division coursework in Psychology at a four-year university. The degree program allows students to develop an understanding of the biological, cognitive, and social aspects of human behavior as well as the methodological and experimental practices in the field. Students should choose the emphasis or track appropriate to the transfer institution or area of interest. In all cases, students should consult with a counselor before selecting the core or elective courses to meet the requirements of the transfer institution. Students must fulfill major requirements and all associate degree requirements for the A.A./A.S. degree; see pages 42-43.

REQUIRED COURSES

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Units</th>
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<tbody>
<tr>
<td>PSYC 1</td>
<td>Introduction to Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 2</td>
<td>Introduction to Psychology: Social Processes</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 5</td>
<td>Experimental Psychology</td>
<td>3</td>
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<tr>
<td>PSYC 42</td>
<td>Introduction to Psychological Statistics OR</td>
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<tr>
<td>MATH 13</td>
<td>Elementary Statistics</td>
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PLUS 6 ADDITIONAL UNITS FROM THE FOLLOWING:

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<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTH 1</td>
<td>Physical Anthropology</td>
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<tr>
<td>ANTH 2</td>
<td>Cultural Anthropology</td>
<td>3</td>
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<tr>
<td>BIOL 1</td>
<td>General Biology OR</td>
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<tr>
<td>BIOL 6</td>
<td>Human Physiology OR</td>
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<tr>
<td>BIOL 10</td>
<td>Introduction to Biology OR</td>
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<td>BIOL 11</td>
<td>Concepts of Biology OR</td>
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<td>BIOL 56</td>
<td>Biology: A Human Perspective</td>
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<tr>
<td>PSYC 3</td>
<td>Social Psychology</td>
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<tr>
<td>PSYC 4</td>
<td>Developmental Psychology</td>
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<tr>
<td>PSYC 7</td>
<td>Abnormal Psychology</td>
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<tr>
<td>PSYC 40</td>
<td>Introduction to Biopsychology</td>
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<tr>
<td>PSYC 40L</td>
<td>Biopsychology Laboratory</td>
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<tr>
<td>PSYC 6</td>
<td>Psychology of Adjustment OR</td>
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<td>PSYC 60</td>
<td>Psychology and Film</td>
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<tr>
<td>PSYC 27</td>
<td>Psychology of Women OR</td>
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<tr>
<td>PSYC 70</td>
<td>Environmental Psychology</td>
<td>3</td>
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</tbody>
</table>

TOTAL UNITS REQUIRED: 18-19

Psychology Courses

PSYC 1 INTRODUCTION TO PSYCHOLOGY
Units: 3
Hours: 54 lecture
Introduction to the general principles of psychology, concentrating on brain functions, sensation and perception, consciousness, learning, memory, motivation and emotion. Required for psychology majors. (CSU, UC)
PSYC 2 INTRODUCTION TO PSYCHOLOGY: SOCIAL PROCESSES
Units: 3
Hours: 54 lecture
Extension of the basic concepts from PSYC 1. Examination of complex social processes such as personality formation, response to stress, psychological breakdown, and group behavior. Recommended for students planning to major in psychology or related fields. (CSU, UC)

PSYC 3 SOCIAL PSYCHOLOGY
Units: 3
Hours: 54 lecture
Study of human interaction with emphasis on the individual within a social context. Topics include development of the self, social perception, interpersonal attraction, prejudice and discrimination, attitude change, moral development, altruism, aggression, social influence, power and leadership, and interaction in groups are explored. (CSU, UC)

PSYC 4 DEVELOPMENTAL PSYCHOLOGY
Units: 3
Advisory: Completion of PSYC 1 with grade of "C" or better recommended
Hours: 54 lecture
An overview of development from conception to adolescence. Includes socioemotional, language and cognitive development, nature versus nurture, attachment, child abuse, gender role development, and family structures. Examines psychological theories that apply to children and adolescents. A multicultural and multiethnic approach is stressed and the differences in child parent interaction are explored in these contexts. (CSU, UC)

PSYC 5 EXPERIMENTAL PSYCHOLOGY
Units: 3
Prerequisite: Completion of PSYC 1; completion of or concurrent enrollment in PSYC 42 OR completion of MATH 13; grades of "C" or better required (it is recommended that students complete or concurrently enroll in PSYC 42)
Hours: 90 (36 lecture, 54 laboratory)
Introduction to research methodology, experimental design and hypothesis testing in the behavioral sciences. Includes the execution, evaluation and reporting of individual research projects. (CSU, UC)

PSYC 6 PSYCHOLOGY OF ADJUSTMENT
Units: 3
Hours: 54 lecture
Basic theories of personal and social adjustment. Use of psychological principles and methods in adapting to the challenges of life. Topics include self image and self esteem, interpersonal relations, stress management, mental health and illness, and approaches to personal growth. (CSU, UC)

PSYC 7 ABNORMAL PSYCHOLOGY
Units: 3
Advisory: Completion of PSYC 1 with grade of "C" or better recommended
Hours: 54 lecture
Introduction to descriptive psychopathology: the origin, nature, and treatment of psychological and behavioral disorders, including discussion of relevant ethical and diagnostic issues. Major topics include schizophrenia, anxiety-related disorders, mood disorders, personality disorders, and conflicting “models of madness.” (CSU, UC)

PSYC 8 PSYCHOLOGY OF DEATH AND DYING
Units: 3
Hours: 54 lecture
An investigation of beliefs, attitudes, and behaviors associated with death, dying and bereavement. Terminal illness, suicide, euthanasia, last rites, legal aspects, death anxiety, cross-cultural beliefs and various philosophical views on the phenomenon of death are explored. (CSU, UC)

PSYC 10 PSYCHOLOGY OF MARRIAGE
Also known as HDEV 21
Units: 3
Hours: 54 lecture
Study of the meaning and function of intimacy, marriage, and family in today’s American society. Consideration given to nature of commitments, sexuality, alternative relationships, communication, conflict resolution, economics, parenting, crises, and marital separation, through the life span, and encompassing a diverse range of individuals. Recommended for majors in Human Development and Family and for those in human service careers. (CSU, UC)

PSYC 15 THINKING AND PROBLEM SOLVING
Units: 3
Hours: 54 lecture
Research-based analysis of the psychology of everyday thinking. Major topics include problem solving, decision making, expertise, learning, memory, and heuristics and biases. (CSU, UC)

PSYC 27 PSYCHOLOGY OF WOMEN
Units: 3
Hours: 54 lecture
Study of the psychological effects of society upon women including biology, culture, social processes, and personality. Emphasis will be placed on what it means to grow-up female in different contexts with particular emphasis on the effects of culture, class, and ethnicity. (CSU, UC)
PSYC 28 INDEPENDENT STUDY
Units: 1-3
Designed for students interested in furthering their knowledge at an independent study level in an area where no specific curriculum offering is currently available. Independent study might include, but is not limited to, research papers, special subject area projects, and research projects. May be taken four times for credit. See Independent Study page in catalog. (CSU, UC—with unit limitation)

PSYC 30 HUMAN SEXUALITY
Units: 3
Hours: 54 lecture
Overview of human sexuality from birth through adulthood: Covers major topics such as gender, sexual anatomy, sexually-transmitted infections, sexual response and disorders, sexual orientation, sexual coercion, and commercial sex. (CSU, UC)

PSYC 40 INTRODUCTION TO BIOPSYCHOLOGY
Units: 3
Advisory: Completion of PSYC 1
Hours: 54 lecture
An introduction to biopsychology focusing on the relationship between the nervous system and behavior. Emphasis on physiological, biochemical, and neuroanatomical foundations of behavior and mental processes. Topics include the central nervous system function and its relation to psychoactive drug effects, sensory/perceptual processes, sleep and dreaming, learning phenomena, memory mechanisms, human communication disorders, and abnormal behavior. (CSU, UC)

PSYC 40L BIOPSYCHOLOGY LABORATORY
Units: 1
Corequisite: Completion of or concurrent enrollment in PSYC 40
Hours: 54 laboratory
Study of methods and techniques used to investigate sensation, perception, psychophysics, and biological psychology. Topics include the organization of the brain, anatomy and physiology of the neuron, methods and an examination of sensory systems. (CSU, UC)

PSYC 42 INTRODUCTION TO PSYCHOLOGICAL STATISTICS
Units: 3
Prerequisite: Completion of MATH D or equivalent
Hours: 54 lecture
Statistical procedures used for experimental analysis in the social and behavioral sciences. Descriptive and correlational statistics, parametric and nonparametric inference tests, and current controversies in hypothesis testing. (CSU, UC—with unit limitation)

PSYC 50 ALCOHOL, DRUGS AND SOCIETY
Units: 3
Hours: 54 lecture
The use, misuse, and abuse of all major families of psychoactive drugs, including opiates, stimulants, tobacco, marijuana, psychedelics, alcohol and sedative-hypnotics. Topics covered include cross-cultural usage, theories of addiction, government regulation, and mechanisms of drug action. (CSU)

PSYC 60 PSYCHOLOGY AND FILM
Units: 3
Hours: 54 lecture
Analysis of a selection of contemporary films that have played a critical role in shaping and reflecting cultural assumptions and fears. Emphasis on abnormal mental states and processes, social psychology, substance abuse, and ethics. Viewing of films, reading from psychology and psycholinguistics, and discussion included. Films will vary with each offering. (CSU, UC)

PSYC 70 ENVIRONMENTAL PSYCHOLOGY
Units: 3
Hours: 54 lecture
Exploration of psychological research of how behavior impacts the natural environment and how the natural environment impacts behavior. Emphasis on ways in which psychological theory can be applied to formulate solutions. (CSU, UC)

PSYC 300 SELECTED TOPICS IN PSYCHOLOGY
Units: 0.5-4
Courses of study will cover topics relevant to the discipline. Topics will vary. Course content and unit credit to be determined by the division. May be offered as seminar, lecture, or lecture/laboratory classes. Students may repeat “300” courses within a discipline only when a topic is different from previously completed course. See Selected Topics page in catalog. (CSU, UC—with unit limitation)

PSYC 400 SELECTED TOPICS IN PSYCHOLOGY
Units: 0.5-4
Courses of study will cover topics relevant to the discipline. Topics will vary. Course content and unit credit to be determined by the division. May be offered as seminar, lecture, or lecture/laboratory classes. Students may repeat “400” courses within a discipline only when a topic is different from previously completed course. See Selected Topics page in catalog. (not transferable)

PSYC 808 PSYCHOLOGY OF NON-WESTERN BELIEF SYSTEMS
Units: 0
Hours: 8 lecture
As technology continues to promote a global village, it is becoming increasingly more important to understand non-western belief systems and multiculturalism. This course examines the influence of belief systems on human behavior using comparative multicultural and cross-cultural approaches. May be repeated. (noncredit)
Real Estate

BUSINESS, APPLIED ACADEMICS, & PHYSICAL EDUCATION
DEAN: Luis Sanchez
ASSOCIATE DEAN: Darlene Jackson
DIVISION OFFICE: B 3
FACULTY: S. Linthicum
LIAISON COUNSELORS: S. Muraki, V. Skeels

The Real Estate program (1) assists members of the consuming public to better understand the subject of real estate so they are better prepared to meet their real estate housing and investment needs, (2) increases the vocational competency of the real estate brokerage industry, (3) provides course requirements for prequalification for the Real Estate Salesperson examination and the Real Estate Broker examination. For information concerning examination requirements, contact the California Department of Real Estate, P.O. Box 187000, Sacramento, CA 95818-7000.

REAL ESTATE
A.A. OR A.S. DEGREE AND/OR CERTIFICATE
The curriculum in Real Estate helps qualify students for positions as real estate brokers, real estate salespersons, real estate loan brokers, property managers, and escrow officers. Students must fulfill major requirements and all associate degree requirements for the A.A./A.S. degree; see pages 42-43. A certificate is designed to provide career technical skills; it is not equivalent to an A.A. or A.S. degree.

REQUIRED COURSES

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>REAL 74 Real Estate Principles</td>
<td>3</td>
</tr>
<tr>
<td>REAL 75 Real Estate Practice</td>
<td>3</td>
</tr>
<tr>
<td>REAL 76 Legal Aspects of Real Estate</td>
<td>3</td>
</tr>
<tr>
<td>REAL 77 Real Estate Finance</td>
<td>3</td>
</tr>
<tr>
<td>REAL 78 Real Estate Economics</td>
<td>3</td>
</tr>
<tr>
<td>REAL 79 Real Estate Appraisal</td>
<td>3</td>
</tr>
</tbody>
</table>

PLUS 3 ADDITIONAL UNITS FROM:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS A Elements of Accounting</td>
<td>3</td>
</tr>
<tr>
<td>BUS 1 Financial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>BUS 20 Introduction to Business</td>
<td>3</td>
</tr>
<tr>
<td>BUS 85 Introduction to Oral Communication</td>
<td>3</td>
</tr>
<tr>
<td>BUS 100 Management Concepts and Applications</td>
<td>3</td>
</tr>
<tr>
<td>BUS 102 Management Communications</td>
<td>3</td>
</tr>
<tr>
<td>BUS 120 Introduction to Marketing</td>
<td>3</td>
</tr>
<tr>
<td>BUS 124 Selling Dynamics</td>
<td>3</td>
</tr>
<tr>
<td>CIS 50 Applying Computer Software</td>
<td>3</td>
</tr>
<tr>
<td>CSCI 10 Introduction to Computing</td>
<td>3</td>
</tr>
<tr>
<td>REAL 81 Escrow Principles</td>
<td>3</td>
</tr>
<tr>
<td>REAL 82 Real Estate Foreclosures: Debtors’ Rights, Creditors’ Remedies</td>
<td>3</td>
</tr>
<tr>
<td>REAL 83 Common Interest Developments</td>
<td>3</td>
</tr>
<tr>
<td>REAL 84 Real Estate Property Management</td>
<td>3</td>
</tr>
</tbody>
</table>

TOTAL UNITS REQUIRED: 21

Real Estate Courses

REAL 74 REAL ESTATE PRINCIPLES
Units: 3
Hours: 54 lecture
Fundamental real estate course covering laws and principles of California real estate; gives understanding, background, and terminology necessary for advanced study in specialized courses. Helpful to those preparing for the real estate salesperson license examination. (CSU)

REAL 75 REAL ESTATE PRACTICE
Units: 3
Advisory: Completion of REAL 74 or equivalent
Hours: 54 lecture
Day-to-day operations in real estate, including listing, prospecting, advertising, financing, sales techniques, escrow, and ethics. (CSU)

REAL 76 LEGAL ASPECTS OF REAL ESTATE
Units: 3
Advisory: Completion of REAL 74 or equivalent
Hours: 54 lecture
Study of the practical aspects of California real estate law, including sources of law, government regulation, property ownership divisions, transfer, title, contracts, escrow, and landlord/tenant relationships. (CSU)

REAL 77 REAL ESTATE FINANCE
Units: 3
Advisory: Completion of REAL 74 or equivalent recommended
Hours: 54 lecture
Introduction to real estate financing, including the necessary steps involved in the financing process, types of lenders and loans, qualifying the property and the buyer, and problems in financing transactions. (CSU)

REAL 78 REAL ESTATE ECONOMICS
Units: 3
Advisory: Completion of REAL 74 or equivalent recommended
Hours: 54 lecture
Introduction to the economic forces that shape and affect real estate market activities and values. Includes business and real estate cycles; regional, community, and neighborhood growth patterns; residential, commercial, and industrial markets; rural and recreational markets; property taxes; and real estate investments. (CSU)
**REAL 79 REAL ESTATE APPRAISAL**  
Units: 3  
Hours: 54 lecture  
Introductory course covering the purposes of appraisals, appraiser licensing, appraiser regulations, and approaches to value. General and specific information on the valuation process. Emphasis on residential single-unit, planned unit development, small income property, and condominium properties. Meets the requirements of the California Department of Real Estate as a course that can be utilized to meet the salesperson and broker’s education requirements. However, course does not meet the Office of Real Estate Appraisers’ criteria for basic education. (CSU)

**REAL 81 ESCROW PRINCIPLES**  
Formerly known as REAL 310  
Units: 3  
Hours: 54 lecture  
Principles, practices, and procedures utilized for escrows associated with transfer of real property, clearing of liens and encumbrances. Coverage includes buy-sell, refinace, exchange, and bulk transfer escrows. Focus includes loan payoffs, prorations, instruction preparation, and escrow closings. Approved by California Department of Real Estate (DRE) for credit toward required coursework for California real estate broker examination, and for one of two courses required for DRE salesperson license in addition to Real Estate Principles (REAL 74). (CSU)

**REAL 82 REAL ESTATE FORECLOSURES: DEBTORS’ RIGHTS, CREDITORS’ REMEDIES**  
Formerly known as REAL 311  
Units: 3  
Hours: 54 lecture  
Principles and practices involved in judicial and non-judicial foreclosure process. Focuses on real estate secured creditor remedies associated with debt collection and associated debtor rights. Includes foreclosure alternatives, potential third party opportunities, and importance of borrower-lender communications as key step for avoidance of foreclosure action. (CSU)

**REAL 83 COMMON INTEREST DEVELOPMENTS**  
Formerly known as REAL 312  
Units: 3  
Advisory: Completion of REAL 74  
Hours: 54 lecture  
Principles, practices, and procedures relating to the managing of common interest developments (CIDs). Coverage includes ownership (common area and separate interest), association laws and procedures, rules enforcement, and dues assessments. Approved by California Department of Real Estate (DRE) for credit toward required coursework for California real estate broker examination, and for one of two courses required for DRE salesperson license in addition to Real Estate Principles (REAL 74). (CSU)

**REAL 84 REAL ESTATE PROPERTY MANAGEMENT**  
Units: 3  
Advisory: Completion of REAL 74  
Hours: 54 lecture  
Property management for owners and managers of residential and commercial income properties. Approved by California Department of Real Estate (DRE) for credit toward required coursework for California real estate broker examination, and for one of two courses required for DRE salesperson license in addition to Real Estate Principles (REAL 74). (CSU)

**REAL 95 INTERNSHIP IN REAL ESTATE**  
Units: 0.5-4  
Designed for advanced students to work in an area related to their educational or occupational goal. Provides new on-the-job technical training under the direction of a worksite supervisor, allowing students to expand knowledge and skills in the chosen field. Mandatory orientation session and faculty approval to determine eligibility. Students may earn up to a total of 16 units in internship courses (any course numbered 95 and PDEV 94). (CSU—with unit limitation)

**REAL 300 SELECTED TOPICS IN REAL ESTATE**  
Units: 0.5-4  
Courses of study will cover topics relevant to the discipline. Topics will vary. Course content and unit credit to be determined by the division. May be offered as seminar, lecture, or lecture/laboratory classes. Students may repeat “300” courses within a discipline only when a topic is different from previously completed course. See Selected Topics page in catalog. (CSU)
Recreation Management

BUSINESS, APPLIED ACADEMICS, & PHYSICAL
EDUCATION
DEAN: Luis Sanchez
ASSOCIATE DEAN: Darlene Jackson
DIVISION OFFICE: B 3
FACULTY: D. Brownell, M. Conway
LIAISON COUNSELORS: C. Epting-Davis, N. Martinis

TRANSFER MAJOR REQUIREMENTS in Recreation are
available in the Counseling Center. In all cases, students should
consult with a counselor for specific transfer requirements.
Four-year graduates in Recreation qualify for employment in
private industry and recreational agencies.

RECREATION MANAGEMENT
A.A. OR A.S. DEGREE
The Recreation Management program provides students an
opportunity to learn how to motivate others to improve their lives
through the constructive use of recreation. Successful comple-
tion of the Recreation Management associate degree prepares
students for transfer to four-year universities. The curriculum has
been designed to meet lower-division major requirements at
most transfer institutions in Recreation, Recreation Administra-
tion, and Resort and Lodging Management. Career opportunities
include positions at recreation centers, corporate wellness pro-
grams, hotels, resorts, and park and recreation programs. In all
cases, students should consult with a counselor before selecting
the courses to meet the requirements of the transfer institution.
Students must fulfill major requirements and all associate degree
requirements for the A.A. or A.S. degree; see pages 42-43.

REQUIRED COURSES

<table>
<thead>
<tr>
<th>COURSE</th>
<th>UNITS</th>
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</thead>
<tbody>
<tr>
<td>RECM 10 Foundations of Recreation, Tourism and Resort Management</td>
<td>3</td>
</tr>
<tr>
<td>RECM 20 Program Planning and Event Management</td>
<td>3</td>
</tr>
<tr>
<td>RECM 30 Leadership in Recreation, Tourism, and Resort Management</td>
<td>3</td>
</tr>
<tr>
<td>RECM 40 Leisure Aspects of the Hospitality Industry</td>
<td>3</td>
</tr>
</tbody>
</table>

PLUS 9 ADDITIONAL UNITS FROM:

<table>
<thead>
<tr>
<th>COURSE</th>
<th>UNITS</th>
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<tbody>
<tr>
<td>BIOL 5 Human Anatomy OR</td>
<td></td>
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<tr>
<td>BIOL 7A AND 7B Principles of Human Anatomy</td>
<td>4-5</td>
</tr>
<tr>
<td>BIOL 6 Human Physiology</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 11 Concepts of Biology</td>
<td>4</td>
</tr>
<tr>
<td>BUS 1 Financial Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>BUS 2 Financial Accounting II</td>
<td>3</td>
</tr>
<tr>
<td>BUS 3 Managerial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>BUS 20 Introduction to Business</td>
<td>3</td>
</tr>
<tr>
<td>BUS 48 Business Law</td>
<td>3</td>
</tr>
<tr>
<td>BUS 140 Small Business Management</td>
<td>3</td>
</tr>
<tr>
<td>CIS 50 Applying Computer Software OR</td>
<td></td>
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<tr>
<td>CSCI 10 Introduction to Computing</td>
<td>3</td>
</tr>
<tr>
<td>COMM 10 Survey of Communication Studies</td>
<td>3</td>
</tr>
<tr>
<td>ECON 1A Fundamentals of Economics</td>
<td>3</td>
</tr>
<tr>
<td>ECON 1B Fundamentals of Economics</td>
<td>3</td>
</tr>
<tr>
<td>ESCI 1 Physical Geology AND</td>
<td></td>
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<tr>
<td>ESCI 1L Physical Geology Laboratory</td>
<td>4</td>
</tr>
<tr>
<td>GEOG 1 Physical Geography</td>
<td>3</td>
</tr>
<tr>
<td>NUTR 1 Principles of Food Preparation</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 1 Introduction to Psychology</td>
<td>3</td>
</tr>
<tr>
<td>RECM 95 Internship in Recreation, Tourism and Resort Management</td>
<td>1-4</td>
</tr>
<tr>
<td>SOC 1 Introduction to Sociology</td>
<td>3</td>
</tr>
</tbody>
</table>

TOTAL UNITS REQUIRED: 21

Recreation Management Courses

RECM 10 FOUNDATIONS OF RECREATION, TOURISM AND RESORT MANAGEMENT
Units: 3
Hours: 54 lecture
A foundation course focusing on the history, nature, scope and
social aspects of leisure services in Western cultures. Includes
philosophical and ethical issues as well as exploration of possi-
bile career paths. (CSU)

RECM 20 PROGRAM PLANNING AND EVENT MANAGEMENT
Units: 3
Hours: 54 lecture
Theory, delivery systems and processes of program planning,
implementation, and evaluation as applicable to a variety of
both public and private agencies. Addresses a variety of pro-
grams that serve different age groups, interests and needs
within a range of environments. Leadership for both profes-
sionals and volunteers will be presented in terms of their rela-
tionship to the human services field. (CSU)

RECM 30 LEADERSHIP IN RECREATION, TOURISM, AND RESORT MANAGEMENT
Units: 3
Hours: 54 lecture
Leadership of recreation activities with emphasis on the so-
cial development and integration of individuals into group
programs, mechanics of planning, techniques of presentation
and a repertoire of social activities as tools of social recreation.
(CSU)

RECM 40 LEISURE ASPECTS OF THE HOSPITALITY INDUSTRY
Units: 3
Hours: 54 lecture
Overview of structure and financial performances of the hos-
pitality industry; food and lodging, resorts, tourism enterprises,
attractions, and related operations. Focus on orientation on
customer service, cultural/economic trends, and career oppor-
tunities. (CSU)
RECM 50 AVALANCHE SAFETY I
Formerly known as Forestry 38
Units: 4
Advisory: Students should have an intermediate level of proficiency at skiing or snowboarding, and have backcountry access and climbing capability
Hours: 108 (54 lecture, 54 laboratory)
Designed to help winter enthusiasts assess avalanche hazard through field observation of weather, terrain, and the mountain snow pack. Field sessions in stability evaluation, terrain analysis, and route selection will be conducted to apply theory learned in the classroom. Principles of avalanche control and avalanche rescue will be taught. Necessary equipment: beacon; probe; shovel; snowshoes, snowboard, or freeheel skis. Students may take RECM 50 and RECM 51 combined a maximum of four times for credit. (CSU)

RECM 51 AVALANCHE SAFETY II
Formerly known as Forestry 39
Units: 2
Prerequisite: Completion of RECM 50 or equivalent
Advisory: Students should have an intermediate level of proficiency at skiing or snowboarding, and have backcountry access and climbing capability
Hours: 54 (27 lecture, 27 laboratory)
Stability evaluation, route selection, and decisions made in a field context relative to backcountry travel and avalanche safety. Necessary equipment: beacon; probe; shovel; snowshoes, snowboard, or freeheel skis. Students may take RECM 50 and RECM 51 combined a maximum of four times for credit. (CSU)

RECM 60 SPORTS TURF MANAGEMENT
Formerly known as HORT 51
Units: 3
Hours: 90 (36 lecture, 54 laboratory)
Introduction to commercial management and maintenance practices of recreational and sports turfgrass, including turf species and varieties, growth characteristics, irrigation, fertilization, pest control and equipment. Emphasis on large scale turf facilities including parks, golf courses and sports fields. (CSU)

RECM 61 LANDSCAPE IRRIGATION
Formerly known as HORT 39
Units: 3
Hours: 90 (36 lecture, 54 laboratory)
Introduction to landscape irrigation. Design, installation and maintenance of efficient landscape irrigation systems. Classroom lecture and “hands-on” field instruction in water supply, basic hydraulics, component identification and terminology, system layout, pipe sizing: types of heads, valves, controllers, and practices related to appropriate horticultural applications. (CSU)

RECM 70 BACKPACKING
Formerly known as PHED 76
Units: 2
Hours: 54 (18 lecture, 36 activity)
Basics of minimum impact camping and wilderness safety with maximum personal comfort and enjoyment. Emphasizes “leave-no-trace” camping skills, wilderness navigation, shelter use and site selection, group dynamics and leadership. Two field trips required. May be taken four times for credit. (CSU, UC—with unit limitation)

RECM 71 ROCK CLIMBING
Formerly known as PHED 77
Units: 2
Hours: 54 (18 lecture, 36 activity)
Covers various aspects of climbing including: how to use rope systems and other climbing gear safely, how to tie and use various knots, belaying techniques, call signals, balance, climbing techniques, footwork, flexibility, and rappelling. Field trips required. May be taken four times for credit. (CSU, UC—with unit limitation)

RECM 72 WILDERNESS SURVIVAL
Formerly known as PHED 78
Units: 2
Advisory: Physicians approval recommended for participation
Hours: 54 (27 lecture, 27 laboratory)
Designed to enhance the student’s understanding of the outdoors and the natural world. Interactive discussions and experiments involving shelter, water, fire, food, tracking, hazards, and other basic survival skills. Field study required. May be taken four times for credit. (CSU)

RECM 80 SCUBA DIVING
Formerly known as PHED 43
Units: 1.5
Hours: 36 (18 lecture, 18 activity)
Basic techniques in open water scuba diving. Includes academics, confined water (pool) training and a required two-day field trip to ocean for open water checkout. Satisfies PADI and NAUI training standards for open water certification. Students may take RECM 80 and 81 combined a maximum of four times for credit. (CSU, UC—with unit limitation)
**RECM 81 ADVANCED SCUBA DIVING**  
Formerly known as PHED 44  
Units: 2  
Prerequisite: Completion of RECM 80 with a grade of “C” or better or current PADI or NAUI open water certification  
Hours: 45 (27 lecture, 18 activity)  
Advanced techniques in scuba diving. Includes dive planning, underwater navigation, night diving, deep diving, underwater naturalist, scuba equipment and enriched air diving. Requires two-day field trip to the ocean for the certification dives. Each student plans and participates in five open water dives. Satisfies PADI and NAUI training standards for Advanced Open Water Diver certification, including Equipment Specialty and Enriched Air Specialty certifications. Students may take RECM 80 and 81 combined a maximum of four times for credit. (CSU, UC—with unit limitation)

**RECM 95 INTERNSHIP IN RECREATION, TOURISM AND RESORT MANAGEMENT**  
Units: 0.5-4  
Designed for advanced students to work in an area related to their educational or occupational goal. Provides new on-the-job technical training under the direction of a worksite supervisor, allowing students to expand knowledge and skills in the chosen field. Mandatory orientation session and faculty approval to determine eligibility. Students may earn up to a total of 16 units in internship courses (any course numbered 95 and PDEV 94). (CSU—with unit limitation)

**Skill Development Courses**

**SKDV 1 TECHNIQUES OF TUTORING**  
Formerly known as SKDV 21A  
Units: 1  
Advisory: Eligibility for ENGL 1A recommended; reading proficiency as demonstrated by matriculation assessment process or completion of ENGL 50 with a grade of “C” or better recommended  
Hours: 18 lecture  
Introduction to learning theories, styles and techniques as related to tutoring. Fundamentals of communication and motivation for effective tutoring. Strategies for planning tutoring sessions. Tutoring techniques and resources for addressing unique student needs. (CSU)

**SKDV 10 HOW TO BE A SUCCESSFUL ONLINE STUDENT**  
Units: 1  
Advisory: Successful completion of CIS 37  
Hours: 18 lecture  
Designed to develop the skills for success in the online classroom. Includes defining online learning and uncovering its myths; online readiness; netiquette; learning styles; time management, goal setting and motivational techniques; the importance of fostering online community; using emerging technologies including wikis and blogs; student services and resources. Exploration of the use of the campus course management system, completion of basic computer tasks and effective use of Internet tools. (CSU)

**SKDV 28 INDEPENDENT STUDY**  
Units: 1-3  
Designed for students interested in furthering their knowledge at an independent study level in an area where no specific curriculum offering is currently available. Independent study might include, but is not limited to, research papers, special subject area projects, and research projects. May be taken four times for credit. See Independent Study page in catalog. (CSU)

**SKDV 801 SUPERVISED TUTORIALS**  
Units: 0  
Designed to assist students who desire supplemental tutoring or learning assistance in basic skills or academic college-level subjects. Tutorials or learning assistance, or both, are recommended by counselors or instructors for the purpose of developing or augmenting learning by students. Tutorial or learning assistance content is based on student need. Use of tutorial or learning assistance services enrolls students in this non-fee, non-credit course, and does not substitute for any other course or coursework. May be repeated. (noncredit)

**Library/Learning Resource Center**  
DEAN: Brian Haley  
DIVISION OFFICE: LRC 311

Skill Development classes are offered through the Learning Resource Center. SKDV 1 is a one-unit course which is part of the tutor training qualifications. SKDV 801 is a non-credit course that provides tutoring or learning assistance to students in all disciplines. All students who use tutoring or learning assistance will enroll in SKDV 801 Supervised Tutorials.
Social Science

LIBERAL ARTS
DEAN: Debra Sutphen
ASSOCIATE DEAN: Rebecca Bocchicchio
DIVISION OFFICE: W 107
FACULTY: S. McDonald
liaison counselors: N. Martinis, S. Muraki

The Social Science curriculum is a mixture of survey courses and interdisciplinary studies. The courses vary in their subject matter. Students who major in Social Science generally do so in order to prepare themselves for graduate training in a variety of fields.

TRANSFER MAJOR REQUIREMENTS in Social Science are available in the Counseling Center. In all cases, students should consult with a counselor for specific transfer requirements. Positions for which four-year graduates in Social Science are qualified include: civil service entry level management, entry into teacher training, entry into law school, entry into professional social work training, and entry-level work in social service agencies.

SOCIAL AND BEHAVIORAL SCIENCES
A.A. OR A.S. DEGREE
(formerly Social Science)

The Social and Behavioral Sciences degree provides students with a broad perspective on human behavior. Successful completion of the curriculum in Social and Behavioral Sciences offers students a breadth of knowledge that could be focused into single discipline majors as well as applied to an interdisciplinary degree. By drawing from a select group of disciplines, students will study about themselves and others as members of a larger society. Topics and discussions strengthen students? ability to gather and apply information, evaluate how societies and social subgroups operate, gain knowledge to apply to life, and think critically. The courses emphasize a span of social and behavioral disciplines. Students should choose the emphasis appropriate to their transfer institution or areas of interest. In all cases students should consult with a counselor for specific transfer requirements. Students must fulfill program requirements and all associate degree requirements for the A.A./A.S. degree; see pages 42-43.

REQUIRED COURSES
9 UNITS FROM THE FOLLOWING BEHAVIORAL SCIENCES:

- ANTH 2 Cultural Anthropology .................. 3
- ANTH 4 Native Peoples of North America ........ 3
- ANTH 5 Introduction to Archaeology ............ 3
- ANTH 7 Native Peoples of California ............ 3
- ANTH 9 Magic, Witchcraft, Ritual, Myth and Religion . 3
- ANTH 27 Gender, Sex and Culture .................. 3
- COMM 3 Group Communication .................... 3
- COMM 5 Communication Experience .............. 3
- COMM 7 Intercultural Communication ............ 3
- COMM 8 Interpersonal Communication .......... 3

PLUS 9 UNITS FROM THE FOLLOWING SOCIAL SCIENCES:

- ADMJ 50 Introduction to Administration of Justice .... 3
- AGRI 198 Food, Society & the Environment .......... 3
- AGRI 215 Introduction to Agricultural Business & Economics .. 3
- BUS 49 Law and Society .............................. 3
- ECON 1A Fundamentals of Economics ............... 3
- ECON 1B Fundamentals of Economics ............... 3
- GEOG 2 Cultural Geography .......................... 3
- GEOG 3 Geography of California .................... 3
- GEOG 5 World Regional Geography .................. 3
- HIST 4A Western Civilization ....................... 3
- HIST 4B Western Civilization ....................... 3
- HIST 17A History of the United States ............. 3
- HIST 17B History of the United States ............. 3
- HIST 19A History of Traditional East Asia .......... 3
- HIST 19B History of Modern East Asia ............. 3
- HIST 20 California History ......................... 3
- HIST 21 Contemporary United States History ...... 3
- HIST 22 American Military History ................. 3
- HIST 23 Chicano/Mexican American History ........ 3
- HIST 24 Russian History—10th Century to Present .... 3
- HIST 27 Women in American History .............. 3
- HIST 35 Historical Reasoning ....................... 3
- HIST 50 World History to 1450 ..................... 3
- HIST 51 World History since 1450 .................. 3
- INT 1 The Environment and the Human Impact .... 3
- INT 8 Environmentally Compatible Urban Design .... 3
- POLS 1 American Government ........................ 3
- COMM 15 Mass Media and Society .................. 3
- HDEV 1 Human Development ....................... 3
- HDEV 4 Child, Family, and Community ............. 3
- HDEV 9 Child and Adolescent Development .......... 3
- HDEV 25 Culture and Diversity in Early Childhood Education .. 3
- HDEV 60 Aging in a Changing Society ............. 3
- HUM 3 Introduction to Asian Humanities .......... 3
- NUTF 10 Nutrition .................................... 3
- PSYC 1 Introduction to Psychology .................. 3
- PSYC 2 Introduction to Psychology: Social Processes .... 3
- PSYC 3 Social Psychology ............................ 3
- PSYC 4 Developmental Psychology .................. 3
- PSYC 5 Experimental Psychology ................... 3
- PSYC 6 Psychology of Adjustment ................... 3
- PSYC 8 Psychology of Death and Dying ............ 3
- PSYC 10 Psychology of Marriage (also HDEV 21) .... 3
- PSYC 27 Psychology of Women ..................... 3
- PSYC 30 Human Sexuality ............................ 3
- PSYC 50 Alcohol, Drugs and Society ................ 3
- PSYC 60 Psychology and Film ........................ 3
- SSCI 10 Introduction to Ethnic Studies ............. 3
- SSCI 13 Dialogues in American Culture ............. 3
- SOC 1 Introduction to Sociology .................... 3
- SOC 2 Social Problems ................................ 3
- SOC 3 Race, Ethnicity and Inequality ............... 3
- SOC 4 The Family (also HDEV 22) ................... 3
- SOC 5 Sociology of Women's Health ................. 3
- SOC 24 Introduction to Sociology of Sport .......... 3
POLS 2 Comparative Government ........................................ 3
POLS 3 International Relations ........................................ 3
POLS 4 Russian and East European Political Systems .......... 3
POLS 7 Politics of the Developing World—Third World Politics 3
POLS 8 American Foreign Policy .................................... 3
POLS 9 Politics of the Middle East ................................... 3
POLS 12 Terrorism ...................................................... 3
POLS 16 Introduction to Political Theory ......................... 3
POLS 27 Women and Politics in a Global Society .............. 3
SSCI 20 African American Culture and Experience ............ 3
SSCI 25 Mexican American/Latino Culture and Image ....... 3
SSCI 30 Immigration, Community and Culture: Asian American Experience ........................................ 3
SSCI 35 Immigrants and Refugees in America: The European Experience .................................................... 3
SSCI 40 American Legal System and Equality: Ethnic/Cultural Perspective ...................................................... 3
SSCI 50 Ethnic Images in Film ....................................... 3
WMST 1 Introduction to Women's Studies ....................... 3
TOTAL UNITS REQUIRED: 18

Social Science Courses

SSCI 10 INTRODUCTION TO ETHNIC STUDIES
Units: 3
Hours: 54 lecture
Introduction to the diverse cultural, social, economic, historical, and political issues relating to the past and present life circumstances of Asian Americans, African Americans, Hispanic Americans, Native Americans, and other “old” and “new” immigrants. Topics also include majority-minority relations, implications of racism, and intergroup relations. (CSU, UC)

SSCI 13 DIALOGUES IN AMERICAN CULTURE
Units: 3
Hours: 54 lecture
Exploration of the rich diversity of people, cultures, and opportunities within America, emphasizing theoretical and practical understanding of diversity. Employing a wide range of perspectives from disciplines such as art, literature, psychology, sociology, philosophy, history and biology. The lecture-discussions and films explore topics including ethnicity, aging, (dis) ability, social class, gender, sexual orientation, religion, race, identity, politics and science. (CSU, UC)

SSCI 20 AFRICAN AMERICAN CULTURE AND EXPERIENCE
Units: 3
Hours: 54 lecture
Introduction to multicultural studies focusing on African American culture and experience in the United States. Places the African American experience at the center of the discourse and incorporates methodology from other disciplines that serve as a foundation for integrative and comparative perspectives. A critical examination of the African American experience and its antecedents. (CSU, UC)

SSCI 21 INTRODUCTION TO COMMUNITY RESOURCES—SAN FRANCISCO
Units: 2
Hours: 52 (20 lecture, 32 activity)
Interdisciplinary, intensive four-day fieldwork in San Francisco; examining social, political, economic, ethnic and cultural issues in urban communities. Interaction with individuals and community agencies who provide services that address the range of human service, educational and social needs in the city. Fee, advance registration, orientation/pre-trip and post-trip debriefing seminar required. (CSU)

SSCI 25 MEXICAN AMERICAN/LATINO CULTURE AND IMAGE
Units: 3
Hours: 54 lecture
Introduction to Mexican American/Chicano/Latino culture using a comparative and interdisciplinary approach with focus on representation in media and popular culture. Course designed to provide an awareness of social, political, economic and cultural aspects of Mexican American, Chicano and Latino life in United States inclusive of social movements and protests. (CSU, UC)

SSCI 28 INDEPENDENT STUDY
Units: 1-3
Hours: 54 lecture
Designed for students interested in furthering their knowledge at an independent study level in an area where no specific curriculum offering is currently available. Independent study problems might include, but are not limited to, research papers, special construction projects, and research projects. May be taken four times for credit. See Independent Study page in catalog. (CSU, UC—with unit limitation)

SSCI 30 IMMIGRATION, COMMUNITY AND CULTURE: THE ASIAN AMERICAN EXPERIENCE
Units: 3
Hours: 54 lecture
Introduction to Asian American cultures in the United States from mid-1800s to present using a comparative and interdisciplinary approach. Examination of the development and evolution of Chinese, Filipino, Asian Indians, Japanese, Korean and Vietnamese communities within the context of social, historical, economic, and political forces within the United States. Topics include immigration and settlement issues, social movements, assimilation, media images, stereotypes and discrimination, community building, art and popular culture. (CSU, UC)
SSCI 35 IMMIGRANTS AND REFUGEES IN AMERICA: THE EUROPEAN EXPERIENCE  
Units: 3  
Hours: 54 lecture  
Survey of immigration, acculturation, assimilation and cultures of peoples from northern, western, southern, eastern and central Europe. Includes an overview of pre-immigration, immigration and post-immigration experiences of the people from these groups to the United States. (CSU, UC)

SSCI 40 AMERICAN LEGAL SYSTEM AND EQUALITY: ETHNIC/CULTURAL PERSPECTIVES  
Units: 3  
Hours: 54 lecture  
Explores constitutional interpretations of equality and liberty, situated within the context of economic interests and developments. Using particular legal case studies, examines these concepts from multi-ethnic and multi-racial perspectives, as well as the impact on various minority groups. Intended for students who wish to major in fields of Ethnic Studies, Political Science, Sociology or Law. (CSU, UC)

SSCI 50 ETHNIC IMAGES IN FILM  
Units: 3  
Hours: 54 lecture  
Interdisciplinary approach to study ethnic culture in the United States through the medium of film. Examines film content for representation and accuracy, the multiple dimensions of media stereotypes, and the authenticity of diverse ethnic experiences with particular emphasis on gender, race and class. Note: not a course in film making or film criticism. (CSU, UC)

SSCI 300 SELECTED TOPICS IN SOCIAL SCIENCE  
Units: 0.5-4  
Courses of study will cover topics relevant to the discipline. Topics will vary. Course content and unit credit to be determined by the division. May be offered as seminar, lecture, or lecture/laboratory classes. Students may repeat “300” courses within a discipline only when a topic is different from previously completed course. See Selected Topics page in catalog. (CSU, UC—with unit limitation)

SSCI 300C TULE LAKE: WORLD WAR II RELOCATION CAMP SITE STUDY  
Units: 0.5-1  
Hours: 14 (6 lecture, 8 activity) per .5 unit  
Field study of Tule Lake Internment Center. Historical context including current condition and use. May be taken twice for credit. (CSU)

SSCI 300D HISTORIC SITES FIELD STUDY  
Units: 0.5-4  
Hours: 14 (6 lecture, 8 activity) per .5 unit  
Field study of sites important to California and United States History. May be taken four times for credit. (CSU)

SSCI 300F ITALIAN LIFE, CULTURE AND POLITICS  
Units: 3  
Hours: 54 lecture  
Introduction to Italian life and culture through the exploration and examination of history, politics, economics, art, literature and traditions. Special attention will be given to the Medici banking system, the Italian City Republics as well as the period know as the Italian Renaissance. (CSU, UC)

SSCI 300G OAXACAN LIFE AND CULTURE  
Units: 3  
Hours: 54 lecture  
Introduction to Oaxacan life and culture through exploration of its history, culture, politics, ecology and challenges. Emphasis includes the relationship between Southern Mexico and U.S. cultures. Involves field trips to local artisan villages, ecological preserves, museums, archeological sites and guest lectures. (CSU, UC)

Sociology

LIBERAL ARTS

DEAN: Debra Sutphen  
ASSOCIATE DEAN: Rebecca Bocchicchio  
DIVISION OFFICE: W 107  
FACULTY: J. Kattman, M. Seely  
LIAISON COUNSELORS: M. Braga, B. Hawkes

Sociology is a disciplined quest for the understanding of human behavior—particularly in urban, industrial society. Through a systematic analysis of society, its groups, institutions and processes, sociologists hope to better understand and predict human behavior. The introductory course provides a foundation in sociological concepts, with the goal of having students acquire the perspective in sociology and the ability to see their personal position in a societal context. Other sociology courses focus on social problems, race, and ethnic relations and the family.

TRANSFER REQUIREMENTS in Sociology are available in the Counseling Center. In all cases, students should consult with a counselor for specific transfer requirements. Positions for which four-year graduates in Sociology are qualified include, but are not confined to, research, social work, personnel, and corrections/probation work.
Sociology Courses

SOC 1 INTRODUCTION TO SOCIOLOGY
Units: 3
Hours: 54 lecture
Sociological analysis of social interaction and behavior, including concepts such as culture, socialization, social organization and disorganization, collective behavior, deviance, conformity, and social stratification. (CSU, UC)

SOC 2 SOCIAL PROBLEMS
Units: 3
Advisory: Completion of SOC 1 recommended
Hours: 54 lecture
A sociological approach to the study of major social problems. Emphasizes the critical approach to the questions of social problems. A seminar emphasizing the social construction of social problems. (CSU, UC)

SOC 3 RACE, ETHNICITY AND INEQUALITY
Units: 3
Advisory: Completion of or concurrent enrollment in SOC 1 recommended
Hours: 54 lecture
Examines the socio-political impact of race relations in the United States and worldwide. Topics include majority-minority relations, discrimination, prejudice, social stratification, inequality, racism, sexism, ageism, homophobia and related subjects. (CSU, UC)

SOC 4 THE FAMILY
Also known as HDEV 22
Units: 3
Advisory: Completion of SOC 1 recommended
Hours: 54 lecture
A sociological approach to the analysis of the family as a social institution. Of particular interest will be the changing structure of family, gender roles, dating, marriage, intimacy, relationships, and parenting. (CSU, UC)

SOC 5 SOCIOLOGY OF WOMEN’S HEALTH
Units: 3
Advisory: Completion of ENGL A or equivalent with grade of “C” or better
Hours: 54 lecture
Provides a sociological analysis of health issues that concern women throughout their life course. The impact of physiology, psychology, culture, society, and politics upon women’s well-being will be addressed using the feminist perspective. (CSU, UC)

SOC 10 FEMINISM AND SOCIAL ACTION
Also known as WMST 4
Units: 3
Advisory: Completion of ENGL A or equivalent with a grade of “C” or better
Hours: 54 lecture
Examines sociological underpinnings of social action and explores unique contributions of feminism in challenging traditional gender scripts. Provides an overview of the ways in which women engage in deliberative social action to change the conditions of their lives and of their communities. Emphasizes sociological theory as applied to issues related to the institutions of family, health, religion, employment, sexual harassment, housing, and interpersonal violence. (CSU, UC)

SOC 24 INTRODUCTION TO SOCIOLOGY OF SPORT
Units: 3
Advisory: Completion of or concurrent enrollment in SOC 1 recommended
Hours: 54 lecture
Introduction to the examination of sport in contemporary society using a sociological approach. Analyzes sport as a social institution and examines sport’s interaction with politics, economics, religion, gender, race, media, and ethics. Focus on the impact of sport on participants, spectators, and society as a whole. (CSU)

SOC 28 INDEPENDENT STUDY
Units: 1-3
Designed for students interested in furthering their knowledge at an independent study level in an area where no specific curriculum offering is currently available. Independent study might include, but is not limited to, research papers, special subject area projects, and research projects. May be taken four times for credit. See Independent Study page in catalog. (CSU, UC—with unit limitation)

SOC 300 SELECTED TOPICS IN SOCIOLOGY
Units: 0.5-4
Courses of study will cover topics relevant to the discipline. Topics will vary. Course content and unit credit to be determined by the division. May be offered as seminar, lecture, or lecture/laboratory classes. Students may repeat “300” courses within a discipline only when a topic is different from previously completed course. See Selected Topics page in catalog. (CSU, UC—with unit limitation)
Spanish

**LIBERAL ARTS**

DEAN: Debra Sutphen
ASSOCIATE DEAN: Rebecca Bocchicchio
DIVISION OFFICE: W 107
FACULTY: S. Casler, B. Gudz, C. Sabin
LIAISON COUNSELORS: D. Quadros, V. Skeels

The active part that the United States is now taking in world affairs makes it desirable that a greater number of Americans than ever before have a knowledge of foreign languages and cultures. A language background should be of intrinsic value. The acquisition of desired practical communication skills in the study of a modern foreign language is the primary objective. This can be accomplished by the oral approach, motivated by lectures, and implemented by the language laboratory.

TRANSFER MAJOR REQUIREMENTS in Foreign Language are available in the Counseling Center. In all cases, students should consult with a counselor for specific transfer requirements. Four-year graduates in Foreign Languages are qualified for positions in teaching, business, foreign service, law enforcement, nursing, secretarial, and diplomatic services.

**Spanish Courses**

**SPAN 1 ELEMENTARY SPANISH**

Units: 4
Advisory: Completion of ENGL A or equivalent with a grade of “C” or better
Hours: 90 (72 lecture, 18 laboratory)
First of two semesters of Elementary Spanish. Provides basic communication skills through listening, speaking, reading, and writing by applying principles of phonetics (speech sounds), morphology (word formation), and syntax (word order) in the context of Spanish-speaking culture. Corresponds to two years of high school study. (CSU, UC)

**SPAN 2 ELEMENTARY SPANISH**

Units: 4
Prerequisite: Completion of SPAN 1 with a grade of “C” or better, or two years of high school Spanish
Hours: 90 (72 lecture, 18 laboratory)
Second of two semesters of Elementary Spanish. Provides further basic communication skills through listening, speaking, reading, and writing by applying principles of phonetics (speech sounds), morphology (word formation), and syntax (word order) in the context of Spanish-speaking culture. (CSU, UC)

**SPAN 3 INTERMEDIATE SPANISH**

Units: 4
Prerequisite: Completion of SPAN 2 with a grade of “C” or better, or three years of high school Spanish
Hours: 90 (72 lecture, 18 laboratory)
First of two semesters of Intermediate Spanish. Provides intermediate level of communication skills through listening, speaking, reading, and writing by applying principles of phonetics (speech sounds), morphology (word formation), and syntax (word order) in the context of Spanish-speaking culture. (CSU, UC)

**SPAN 4 INTERMEDIATE SPANISH**

Units: 4
Prerequisite: Completion of SPAN 3 with grade of “C” or better, or four years of high school Spanish
Hours: 90 (72 lecture, 18 laboratory)
Second of two semesters of Intermediate Spanish. Provides upper intermediate level of communication skills through listening, speaking, reading and writing within a cultural background. Readings of literature (short story, poetry, drama, essay) and culturally relevant authentic materials (newspapers, magazines, films) as well as writing short compositions are emphasized in this course. (CSU, UC)

**SPAN 15 ELEMENTARY CONVERSATIONAL SPANISH 1**

Units: 3
Hours: 54 lecture
First of two semester sequence covering basic Spanish conversational skills. Emphasizes oral communication through introduction to vocabulary, cultural customs, and elementary grammatical structures used in everyday Spanish. Elementary reading and writing skills also included. (CSU)

**SPAN 16 ELEMENTARY CONVERSATIONAL SPANISH 2**

Units: 3
Prerequisite: Completion with a “C” or better of SPAN 15 or SPAN 1 or equivalent
Hours: 54 lecture
Second semester of Conversational Spanish. Students will develop increasingly complex language abilities through new vocabulary and more advanced grammatical structures. Emphasizing oral communication, students will be introduced to vocabulary, cultural customs, and elementary grammatical, reading, and writing skills. (CSU)

**SPAN 28 INDEPENDENT STUDY**

Units: 1-3
Designed for students interested in furthering their knowledge at an independent study level in an area where no specific curriculum offering is currently available. Independent study might include, but is not limited to, research papers, special subject area projects, and research projects. May be taken four times for credit. See Independent Study page in catalog. (CSU, UC—with unit limitation)
SPAN 300 SELECTED TOPICS IN SPANISH
Units: 0.5-4
Courses of study will cover topics relevant to the discipline. Topics will vary. Course content and unit credit to be determined by the division. May be offered as seminar, lecture, or lecture/laboratory classes. Students may repeat “300” courses within a discipline only when a topic is different from previously completed course. See Selected Topics page in catalog. (CSU, UC—with unit limitation)

Technical Education

BUSINESS, APPLIED ACADEMICS, & PHYSICAL EDUCATION
DEAN: Luis Sanchez
ASSOCIATE DEAN: Darlene Jackson
DIVISION OFFICE: B 3
LIAISON COUNSELOR: M. Moon

Technical Education is provided to prepare students for entry into the workplace. The goal is to develop and maintain a competitive, technologically skilled, and readily available workforce for local employers by delivering affordable training.

Students receive skills-specific training in short-term credit courses. Practical, hands-on learning prepares students to enter the workforce for the first time or for job advancement within their current specialty.

Supportive Education

STUDENT SERVICES
DEAN: Kaylene Hallberg
DIVISION OFFICE: Winstead Center L-102
LIAISON COUNSELORS: S. Bramlett, M. Kwoka

The Supportive Education program offers Adult Education training for handicapped adults with physical and learning disabilities, emphasizing motor development, communication skills, basic education, and vocational education.

Supportive Education Courses

SUPE 802 MOTOR DEVELOPMENT
Units: 0
Motor development classes offer physical activities to meet the varied needs of the students. These activities include team sports, jog/walk, women’s exercises, weight training, Special Olympic training, swimming, and yoga. May be repeated. (noncredit)

SUPE 824 VERBAL COGNITION
Units: 0
Fundamentals of reading and writing, emphasis on phonics, spelling, vocabulary and comprehension. Self-improvement in the areas of study skills, problem solving and communication techniques. May be repeated. (noncredit)

SUPE 831 JOB SEARCH SKILLS
Units: 0
Basic computation, consumer math, and practical use of basic computer programs in job search, applications, resume writing and interviewing skills. Job attitudes and work interrelations in job seeking skills. May be repeated. (noncredit)

Technical Education Courses

TECH 50A HIGH TECH SOLDERING I
Units: 0.5
Hours: 20 (9 lecture, 11 laboratory)
A fundamental study of the basic materials, tools, processes and evaluation of activities involved with state-of-the-art soldering as currently applied in the electronics industry. (not transferable)

TECH 50B HIGH TECH SOLDERING II
Units: 0.5
Advisory: Completion of TECH 50A or equivalent recommended
Hours: 20 (9 lecture, 11 laboratory)
Specialized study of techniques for soldering and desoldering through-hole and surface mount device (SMD) technology on electronic circuit assemblies. (not transferable)

TECH 50C HIGH TECH SOLDERING III
Units: 0.5
Advisory: Completion of TECH 50B or equivalent recommended
Hours: 20 (9 lecture, 11 laboratory)
Welding Technology

LIBERAL ARTS
DEAN: Debra Sutphen
ASSOCIATE DEAN: Rebecca Bocchicchio
DIVISION OFFICE: W 107
FACULTY: W. Wenzel
LIAISON COUNSELORS: M. Braga, D. Quadros

The Welding Technology curriculum provides training in the field of commercial and industrial welding and fabrication. Students enrolled in Welding Technology courses will receive both the theoretical technical knowledge and the hands-on skills that will prepare them for a career in welding.

A.A. and A.S. degrees as well as certificates can be earned in the Welding Technology Program. The certificate program does not satisfy A.A. or A.S. degree requirements, but does qualify students for certificates in the chosen field of study.

WELDING TECHNOLOGY
A.A. OR A.S. DEGREE
FORMERLY METALS AND MANUFACTURING TECHNOLOGY

Successful completion of the degree pattern in Welding Technology prepares students for transfer to the California State University system in industrial-related degree programs. It also provides the broad background education necessary to compete successfully in commercial and industrial welding and related fabrication fields. Students must fulfill major requirements and all associate degree requirements for the A.A./A.S. degree; see pages 42-43.

REQUIRED COURSES:

<table>
<thead>
<tr>
<th>Course Description</th>
<th>UNITS</th>
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</thead>
<tbody>
<tr>
<td>WELD 10 Exploring Metals/Introduction to Welding</td>
<td>2</td>
</tr>
<tr>
<td>WELD 20 Introduction to Welding</td>
<td>3</td>
</tr>
<tr>
<td>WELD 30 Shielded Metal Arc Welding of Structural Plate and Pipe</td>
<td>3</td>
</tr>
<tr>
<td>WELD 40 Wire Feed MIG Welding</td>
<td>2</td>
</tr>
<tr>
<td>WELD 50 Gas Tungsten Arc Welding (TIG)</td>
<td>2</td>
</tr>
<tr>
<td>WELD 60 Welding Metallurgy</td>
<td>3</td>
</tr>
<tr>
<td>WELD 60 Welding Metallurgy</td>
<td>2</td>
</tr>
<tr>
<td>WELD 70 Principles of Fabrication</td>
<td>2</td>
</tr>
<tr>
<td>WELD 80 Structural Steel Welding Certification OR</td>
<td>1-1.5</td>
</tr>
<tr>
<td>WELD 82 Pipe Welding Certification</td>
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</tbody>
</table>

PLUS 5 ADDITIONAL UNITS FROM THE FOLLOWING:

<table>
<thead>
<tr>
<th>Course Description</th>
<th>UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>WELD 35 Welding Skill and Speed Development</td>
<td>2</td>
</tr>
<tr>
<td>WELD 95 Internship in Welding Technology</td>
<td>5-4</td>
</tr>
<tr>
<td>EST 1 Technical Drafting I</td>
<td>3</td>
</tr>
<tr>
<td>EST 2 Technical Drafting II</td>
<td>3</td>
</tr>
</tbody>
</table>

TOTAL UNITS REQUIRED: 23-23.5

GAS METAL ARC WELDING
SKILLS CERTIFICATE

The Gas Metal Arc Welding Skills Certificate prepares students for a broad understanding of the wire feed processes of GMAW using solid wires on Carbon Steel and Aluminum with multiple types of metal transfer modes. In addition, Flux Core wire processes, both gas shielded and self shielded are studied in the earning of this certificate. A skills certificate is designed to provide career technical skill for the focused subject area; it is not equivalent to the Welding Certificate and does not replace Welder Certification which is solely skill performance based.

REQUIRED COURSES:

<table>
<thead>
<tr>
<th>Course Description</th>
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<tr>
<td>WELD 10 Exploring Metals/Introduction to Welding</td>
<td>2</td>
</tr>
<tr>
<td>WELD 20 Introduction to Welding</td>
<td>3</td>
</tr>
<tr>
<td>WELD 30 Shielded Metal Arc Welding of Structural Plate and Pipe</td>
<td>3</td>
</tr>
<tr>
<td>WELD 40 Wire Feed MIG Welding</td>
<td>2</td>
</tr>
</tbody>
</table>

TOTAL UNITS REQUIRED: 10
GAS TUNGSTEN ARC WELDING SKILLS CERTIFICATE
The Gas Tungsten Arc Welding Skills Certificate prepares students for using complex emerging technological aspects of this welding process developed by welding equipment manufacturers since 2005. By exposure to welding a broad range of metals, with a concentration on sheet thicknesses, the student is earning the expression applications of metalworking used in the welding industry or artistic metal certificate is not designed to replace. GA encompasses their own system of apprenticeship which this skills unit does not replace. Welder Certification which is solely skill performance based.

REQUIRED COURSES: UNITS
WELD 10 Exploring Metals/Introduction to Welding 2
WELD 20 Introduction to Welding Technology 3
WELD 35 Welding Skill and Speed Development 2
WELD 50 Gas Tungsten Arc Welding (TIG) 3
TOTAL UNITS REQUIRED: 10

METAL FABRICATOR AND DESIGNER SKILLS CERTIFICATE
The Metal Fabricator and Designer Skills Certificate provides students knowledge of the processes, manner, and techniques of metalworking used in the welding industry or artistic metal expression applications. It can be a lead into employment with a typical metal fabrication organization and may parallel the manner of methods used by Ironworkers, Boilermakers, and Millwrights; however, each of these specialty areas of metalwork encompasses their own system of apprenticeship which this skills certificate is not designed to replace. A skills certificate is designed to provide career technical skill for the focused subject area; it is not equivalent to the Welding Certificate and does not replace Welder Certification which is solely skill performance based.

REQUIRED COURSES: UNITS
WELD 10 Exploring Metals/Introduction to Welding 2
WELD 20 Introduction to Welding Technology 3
WELD 30 Shielded Metal Arc Welding of Structural Plate and Pipe 3
WELD 80 Structural Steel Welding Certification OR 1-1.5
WELD 82 Pipe Welding Certification 1-1.5
TOTAL UNITS REQUIRED: 9-9.5

SHIELDED METAL ARC WELDING SKILLS CERTIFICATE
The Shielded Metal Arc Welding Skills Certificate prepares students for the type of work performed with this welding process. With a focus of Structural Steel Plate as well as Pipe Welding Carbon Steel applications, this certificate validates a knowledge base in this welding process. A skills certificate is designed to provide career technical skill for the focused subject area; it is not equivalent to the Welding Certificate and does not replace Welder Certification which is solely skill performance based.

REQUIRED COURSES: UNITS
WELD 10 Exploring Metals/Introduction to Welding 2
WELD 20 Introduction to Welding Technology 3
WELD 30 Shielded Metal Arc Welding of Structural Plate and Pipe 3
WELD 80 Structural Steel Welding Certification OR 1-1.5
WELD 82 Pipe Welding Certification 1-1.5
TOTAL UNITS REQUIRED: 9-9.5

WELDING ENTREPRENEURSHIP SKILLS CERTIFICATE
This skills certificate is designed to prepare students wanting to open their own welding or welding related business. Completion of this skills certificate provides students with basic skills in welding technology and small business management. A skills certificate is designed to provide career technical skill for the focused subject area; it is not equivalent to the Welding Certificate and does not replace Welder Certification which is solely skill performance based.

REQUIRED COURSES: UNITS
BUS B Accounting and Finance for the Small Business Owner 3
BUS 140 Small Business Management 3
WELD 10 Exploring Metals/Introduction to Welding 2
WELD 20 Introduction to Welding Technology 3
WELD 70 Principles of Fabrication 2
TOTAL UNITS REQUIRED: 13

Welding Technology Courses

WELD 10 EXPLORING METALS/INTRODUCTION TO WELDING
Units: 2
Hours: 72 (18 lecture, 54 laboratory)
History and development of metal working, including current techniques and fabrication standards. Proper and safe use of modern metal fabrication equipment and hands-on experience with the two most common welding processes, Oxy-Acetylene (Gas) welding and Shielded Metal Arc (Stick) welding. (CSU)
WELD 20 INTRODUCTION TO WELDING TECHNOLOGY  
Units: 3  
Hours: 108 (36 lecture, 72 laboratory)  
Introductory course in welding methods. Instruction in oxyacetylene welding, cutting and brazing. Electric Arc welding processes include Stick Arc (SMAW), MIG wire feed (GMAW), and Flux Core Arc (FCAW). Plasma and Carbon Arc Cutting in addition to Flame Cutting are also explored. Course intended to teach basic welding processes, principles and applications. May be taken three times for credit. (CSU)

WELD 28 INDEPENDENT STUDY  
Units: 1-3  
Designed for students interested in furthering their knowledge at an independent study level in an area where no specific curriculum offering is currently available. Independent study problems might include, but are not limited to, research papers, special construction projects, and research projects. May be taken four times for credit. See Independent Study page in catalog. (CSU)

WELD 30 SHIELDED METAL ARC WELDING OF STRUCTURAL PLATE AND PIPE  
Units: 3  
Prerequisite: Completion of WELD 20, or equivalent experience using Shielded Metal Arc (Stick or Arc) process  
Advisory: Familiarity with out-of-position welding (especially vertical and overhead) and weld joint preparation  
Hours: 108 (36 lecture, 72 laboratory)  
Welding of structural plates and pipes using accepted practices of industry with Shielded Metal Arc (Stick) Process. Emphasis on techniques of out-of-position welding (3G-4G plate and 5G-6G pipe full penetration welds). May be taken two times for credit. (CSU)

WELD 35 WELDING SKILL AND SPEED DEVELOPMENT  
Units: 2  
Prerequisite: Completion of WELD 30 and 40 with grades of "C" or better  
Advisory: Completion of EST 1 with grade of "C" or better  
Hours: 72 (18 lecture, 54 laboratory)  
Further development of skills, speed, and experience in Welding Technology. Individual projects are designed by the student with the approval and supervision of the instructor. May be taken two times for credit. (not transferable)

WELD 40 WIRE FEED MIG WELDING  
Units: 2  
Hours: 90 (18 lecture, 72 laboratory)  
Covers the various modes of metal transfer across the arc when using Gas Metal Arc Welding process or MIG and Flux Cored Arc Welding, both Self Shielding and Dual Shielding. May be taken two times for credit. (CSU)

WELD 50 GAS TUNGSTEN ARC WELDING (TIG)  
Units: 3  
Prerequisite: Completion of WELD 10 or equivalent Oxyacetylene Welding experience  
Hours: 108 (36 lecture, 72 laboratory)  
Tungsten Inert Gas Welding methods and techniques used to weld exotic metals such as stainless, aluminum, and alloy steels. Instruction in equipment setup for different metals, rod selection, material identification, and welding techniques using Gas Tungsten Arc. Laboratory exercises include starting the arc, running beads, pad welding, fillet and groove welds using various metals. May be taken two times for credit. (CSU)

WELD 60 WELDING METALLURGY  
Units: 2  
Prerequisite: Completion of WELD 30 or WELD 50  
Advisory: Completion of CHEM A  
Hours: 72 (36 lecture, 36 laboratory)  
Exploration of the production and properties of ferrous metals used in the welding industry. The chemical and physical properties of metals, crystallization, and theoretical concepts of alloying. Laboratory experiments in metal identification, hardness and destructive testing, heat treating, sample preparation, and microphotography. (CSU)

WELD 70 PRINCIPLES OF FABRICATION  
Units: 2  
Prerequisite: Completion of WELD 20  
Advisory: Completion of WELD 10  
Hours: 72 (18 lecture, 54 laboratory)  
Advanced welding course to learn methods of steel construction. Includes design and fabrication techniques, tool and equipment utilization, cost estimates, construction methods, and installation procedures. Designed for welders ready to apply their skills in steel fabrication. (CSU)

WELD 80 STRUCTURAL STEEL WELDING CERTIFICATION  
Units: 1  
Prerequisite: Completion of WELD 30 and 40 with grades of "C" or better or equivalent coursework  
Advisory: Students must be competent in vertical and overhead position welding using certification welding processes of SMAW and FCAW  
Hours: 42 (6 lecture, 36 laboratory)  
Designed to certify the welder within the guidelines of American Welding Society (AWS) Structural Steel Code D1.1. Focus on manipulative skill development using SMAW, FCAW and GMAW processes in preparation for the actual certification test. May be taken four times for credit. (not transferable)
WELD 82 PIPE WELDING CERTIFICATION
Units: 1.5
Prerequisite: Completion of WELD 30 and WELD 40 with grades of “C” or better; concurrent enrollment in or completion of WELD 80 with grade of “C” or better
Advisory: Students must be competent in horizontal, vertical and overhead position welding with open root groove joints using certification welding processes of SMAW and GTAW
Hours: 54 (14 lecture, 40 laboratory)
Designed to certify the welder within the guidelines of American Society of Mechanical Engineers—section #IX—Boiler and Pressure Vessel Code or American Petroleum Institute—welding of crosscountry pipelines. Focus on manipulative skill development using SMAW, GTAW and GMAW processes in preparation for the actual certification test. May be taken four times for credit. (CSU)

WELD 95 INTERNSHIP IN WELDING TECHNOLOGY
Units: 0.5-4
Designed for advanced students to work in an area related to their educational or occupational goal. Provides new on-the-job technical training under the direction of a worksite supervisor, allowing students to expand knowledge and skills in the chosen field. Mandatory orientation session and faculty approval to determine eligibility. Students may earn up to a total of 16 units in internship courses (any course numbered 95 and PDEV 94). (CSU—with unit limitation)

WELD 300 SELECTED TOPICS IN WELDING TECHNOLOGY
Units: 0.5-4
Courses of study will cover topics relevant to the discipline. Topics will vary. Course content and unit credit to be determined by the division. May be offered as seminar, lecture, or lecture/laboratory classes. Students may repeat “300” courses within a discipline only when a topic is different from previously completed course. See Selected Topics page in catalog. (CSU)

WELD 400 SELECTED TOPICS IN WELDING TECHNOLOGY
Units: 0.5-4
Courses of study will cover topics relevant to the discipline. Topics will vary. Course content and unit credit to be determined by the division. May be offered as seminar, lecture, or lecture/laboratory classes. Students may repeat “400” courses within a discipline only when a topic is different from previously completed course. See Selected Topics page in catalog. (not transferable)

Women and Gender Studies

LIBERAL ARTS
DEAN: Debra Sutphen
ASSOCIATE DEAN: Rebecca Bocchicchio
DIVISION OFFICE: W 107
LIAISON COUNSELORS: M. Moon, V. Skeels

WOMEN’S STUDIES
A.A. DEGREE
Women’s Studies is an interdisciplinary major based on the premise that gender is a historical variable that affects the social, economic, and political structure of our society as well as the everyday lives of women and men. Employing a wide range of perspectives from disciplines such as history, literature, philosophy, sociology, psychology, art, anthropology, and biology, students will explore and examine how these disciplines pertain to women and how women have contributed to the cultural and sociological landscape.

The A.A. degree provides students with core courses in Women’s Studies. Students may utilize the Women’s Studies curriculum to fulfill transferable general education requirements for CSU and UC systems as well as lower division Women’s Studies courses for transfer to four-year institutions with women’s studies majors. Students must fulfill major requirements and all associate degree requirements for the A.A. degree; see pages 42-43.

REQUIRED CORE COURSE: UNITS
WMST 1 Introduction to Women’s Studies ........................ 3

PLUS 15 ADDITIONAL UNITS FROM THE FOLLOWING:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTH 27</td>
<td>Gender, Sex and Culture</td>
<td>3</td>
</tr>
<tr>
<td>ART 1E</td>
<td>History of Women in Art</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 27</td>
<td>Literature by Women</td>
<td>3</td>
</tr>
<tr>
<td>HIST 27</td>
<td>Women in American History</td>
<td>3</td>
</tr>
<tr>
<td>PHIL 27</td>
<td>Introduction to Philosophy of Women in Western Cultures</td>
<td>3</td>
</tr>
<tr>
<td>POLS 27</td>
<td>Women and Politics in a Global Society</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 27</td>
<td>Psychology of Women</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 30</td>
<td>Human Sexuality</td>
<td>3</td>
</tr>
<tr>
<td>SOC 5</td>
<td>Sociology of Women’s Health</td>
<td>3</td>
</tr>
<tr>
<td>WMST 2</td>
<td>Introduction to LGBT Studies/Queer Theory (also HUM 27)</td>
<td>3</td>
</tr>
<tr>
<td>WMST 3</td>
<td>Introduction to Women, Gender and Religion (also HUM 9)</td>
<td>3</td>
</tr>
<tr>
<td>WMST 4</td>
<td>Feminism and Social Action (also SOC 10)</td>
<td>3</td>
</tr>
</tbody>
</table>

TOTAL UNITS REQUIRED: 18
Women & Gender Studies Courses

WMST 1 INTRODUCTION TO WOMEN’S STUDIES
Formerly known as SSCI 27
Units: 3
Hours: 54 lecture
Interdisciplinary introduction to women's studies through the exploration and examination of historical, philosophical, sociological, psychological and literary perspectives as they pertain to women. Emphasis will be placed on how gender, race, ethnicity, culture, class, age, (dis)ability, sexual and national identities are constructed in relation to each other and how these systems shape women's lives. (CSU, UC)

WMST 2 INTRODUCTION TO LGBT STUDIES/QUEER THEORY
Also known as HUM 27
Units: 3
Advisory: Eligibility for ENGL 1A
Hours: 54 lecture
A broad and general introduction to Queer Theory as an historical consequent of Feminism and Gay and Lesbian Studies. Emphasis on theoretical and philosophical underpinnings of Queer Theory, Social Construction versus Essentialism, Postmodernist theory, Politics, LGBT Studies and Queer Culture. (CSU, UC)

WMST 3 INTRODUCTION TO WOMEN, GENDER AND RELIGION
Also known as HUM 9
Units: 3
Hours: 54 lecture
Introduction to the topic of religion from a feminist perspective through a cross-cultural examination of major religious traditions of the East and West, as well as tribal faith practices. Emphasis on the historical role of women and gender in rituals, sacred texts, institutional structures, doctrine and religious iconography with respect to the impact on contemporary women regarding faith, politics and identity. (CSU, UC)

WMST 4 FEMINISM AND SOCIAL ACTION
Also known as SOC 10
Units: 3
Advisory: Completion of ENGL A or equivalent with a grade of “C” or better
Hours: 54 lecture
Examines sociological underpinnings of social action and explores unique contributions of feminism in challenging traditional gender scripts. Provides an overview of the ways in which women engage in deliberative social action to change the conditions of their lives and of their communities. Emphasizes sociological theory as applied to issues related to the institutions of family, health, religion, employment, sexual harassment, housing, and interpersonal violence. (CSU, UC)
Students’ Rights and Responsibilities

Honesty in Academic Work
Success in college, as in other aspects of life, demands absolute honesty at all times. Sierra College expects that students, as well as faculty, will observe the principles of ethical conduct in their treatment of fellow members of the academic community and in their accomplishment of academic work. Students are responsible for familiarizing themselves with these principles as they pertain to each course in which they enroll. When completing assignments, students should be careful to follow the principles of ethical conduct. Students who are uncertain about the ethics involved in particular courses or assignments should make it a point to talk with instructors. Proven misconduct or violation of these principles will be disciplined as set forth in the Honesty in Academic Work Policy.

The instructor has absolute authority over issuing the final course grade.

It is important to remember that the principles of academic honesty in no way restrict free inquiry and the open exchange of diverse, and sometimes unpopular ideas. These are encouraged, for they are vital to learning and the pursuit of reason and truth.

Examples of behavior deemed to be dishonest

1. Representing as your own, work that was borrowed, purchased, written, or obtained in any other manner from another student or any other sources.

   All work accomplished to meet course requirements must be the student’s own original work in oral and written examinations, class projects, lab data, oral presentations, visual media and other assignments.

   Group projects must represent the original work of the group; each instructor is free to establish the guidelines for collaborative assignments.

2. Plagiarism, which is knowingly presenting borrowed wording, ideas, opinions, visual media (photos, videos, etc.) or data as if it were one's own original creation, must under all circumstances be avoided.

   In papers based on research, plagiarism can be avoided by clearly acknowledging the sources of all information that is not original. The source of quotations and paraphrases must be acknowledged in footnotes, endnotes, or internal citations and/or in a bibliography/list of works cited in a form or style appropriate to the discipline.

Examples of cheating

1. Any type of assistance, oral, visual or written, given by one student to another during a project or examination without the approval of the instructor.

2. Fabricating information or sources.

3. Using forbidden notes or other sources of information on examinations.

4. Altering a grade or interfering with the grading procedures in any course.

5. Allowing someone other than the officially enrolled student to represent the same.

6. Forging attendance documents or other records.

7. Stealing copyrighted computer software.

8. Submitting purchased, commercially prepared papers.

9. Using any electronic device (calculator, tape recorder, or computer) during an examination unless permitted by the instructor.

Consequences of academic dishonesty

An instructor may choose any one or more of the following steps when a student has engaged in behavior that is deemed to be dishonest:

1. Confront the student or students and give counsel regarding the unacceptable nature of the offense.
2. Reassign the research paper, project, exam, or assignment for reevaluation including the possibility of a lower grade on that assignment as a consequence for the dishonesty.
3. Designate a failing grade or a zero for the assignment, project, exam, or paper.
4. Refer the student or students to the Disciplinary Officer for the consideration of additional and more severe consequences, including the possibility of suspension or expulsion from Sierra College. (See Board Policy 5500)

**Standards of Conduct**

By enrolling at Sierra College, students agree to be responsible members of the District community; obey the law; comply with the published rules and regulations of the District; respect the rights, privileges and property of the other members of the District community; and not interfere with legitimate District affairs.

Each student is responsible to adhere to the policies and procedures of Sierra College, as well as all federal, state and local laws. All rules and regulations applying to conduct also apply to student employees, whether all or a portion of the salary is paid by the District.

**The following conduct shall constitute good cause for discipline, including but not limited to:**
- Disruptive behavior, willful disobedience, habitual profanity or vulgarity, defiance of the authority of, threats towards, or persistent abuse of, District personnel on District-controlled property or at District sponsored or supervised functions or through electronic means.
- Continued serious misconduct where other means of correction have failed to bring about proper conduct.
- Acts that would be considered sexual harassment as defined by law or by District policies and procedures.
- Falsification, alteration or misuse of District documents and records; or knowingly furnishing false information to the District.
- Act or threat of damage to or theft of property belonging to or located on District-controlled property or facilities.
- Failure to comply with program-specific policies, procedures, and standards and District Board Policies and Administrative Procedures.
- The physical or verbal disruption of instructional or student services activities, administrative procedures, public service functions, authorized curricular or co-curricular activities or prevention of authorized guests from carrying out the purpose for which they are on campus.
- Unauthorized entry into, or use of, District-controlled facilities.
- Failure to comply with directions of District officials, faculty, staff, or campus security officers who are acting in performance of their duties.
- Engaging in conduct which is obscene, lewd or indecent; libelous or slanderous or which so incites students as to create a clear and present danger of the commission of unlawful acts on District premises.
- Cheating or plagiarizing in relation to a District course or academic program (California Education Code Section 76224). See also Board Policy 5515.
- Causing, attempting to cause, or threatening to cause physical injury to another person.
- Possession, sale or otherwise furnishing any firearm, knife, explosive or other dangerous object, including but not limited to any facsimile firearm, knife or explosive, unless, in the case of possession of any object of this type, the student has obtained written permissions to possess the item from a District employee, which is concurred by the Superintendent/President.
- Gambling on District property.
- Unlawful possession, use, sale, offer to sell, or furnishing, or being under the influence of, any controlled substance, an alcoholic beverage, or an intoxicant of any kind; or unlawful possession of, or offering, arranging or negotiating the sale of any drug paraphernalia on campus or during District-sponsored activities such as field trips, athletic events, study abroad programs, conferences, and workshops.
- Smoking in an area where smoking has been prohibited by law or District regulation.
- Unauthorized preparation, giving, selling, transfer, distribution, or publication, for any commercial purpose, of any contemporaneous recording of an academic presentation in a classroom or equivalent site of instruction, including but not limited to class notes, except as permitted by any District policy or administrative procedure.
- Violation of any statute, regulation, or ordinance or law punishable by incarceration or a fine, other than a vehicular parking violation. Whether a student has committed such a violation shall be determined solely by the District for purposes of any student disciplinary action. Any District disciplinary action is separate and distinct from any other governmental action. The decision of any non-District person or entity, including,
but not limited to, a jury, as to whether the violation occurred is not binding on the student disciplinary action, although it may be considered in the student disciplinary action.

- Discrimination against or harassment of another student, District employee, or individual based on that person’s race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, marital status, sex, or sexual orientation. (Board Policies 3410 and 3420).

Student Discipline Procedures and Due Process

The purpose of this procedure is to provide a prompt and equitable means to address violations of the Standards of Student Conduct outlined in Board Policy 5500. Each case is handled individually; while due process is always employed, some of the procedures outlined below may not be necessary in every case.

Definitions

A. Day(s): Those days, Monday through Friday, when the District is in session and regular classes are held.
B. District: Sierra Joint Community College District, including its officers, agents, employees or members of the Board of Trustees.
C. Expulsion: Permanent exclusion of the student by the Board of Trustees.
D. Informal Agreement: A written agreement between the Disciplinary Officer and the student resolving the disciplinary problem. If the student does not comply with the informal agreement, disciplinary proceedings shall be re-instituted against the student at the discretion of the Disciplinary Officer, unless the informal agreement provides otherwise. Failure by the student to comply with the informal agreement is itself a separate cause for discipline.
E. Instructor: Any academic employee of the District in whose class a student subject to discipline is enrolled, or counselor who is providing or has provided services to the student, or other academic employee who has responsibility for the student’s educational program.
F. Mail: Whenever this policy calls for or permits a written notice or other communication to be given, mailing by certified mail, regular mail and/or by electronic communication and addressed to the last known address of the student shall be deemed to be sufficient compliance with the provision. The District will use reasonable means to transmit notice and communications, using the information provided by the student. It is the student’s responsibility to ensure that the District has updated and current contact information at all times. A student’s failure or refusal to sign a receipt to indicate it was received shall not invalidate the contents of the notice. Personal delivery shall also be deemed compliance with any mailing requirement. Any mail sent to the student’s last known mailing address shall be presumed to be received by the student.

G. Removal from class: Exclusion of the student by an instructor for the day of the removal and the next class meeting. Decisions on such removals shall be final and cannot be appealed.

H. Student: Any person currently enrolled as a student in any course or program offered by the District.

I. Suspension: Exclusion of a student for good cause. A student who has been suspended shall be prohibited from being enrolled at any campus or site in the District for the entire period of the suspension.
   1. Immediate Suspension—The Discipline Officer may order immediate suspension of a student where he or she concludes that immediate suspension is required to protect lives or property and to ensure the maintenance of order. In such cases where immediate suspension is ordered, a reasonable opportunity will be afforded the student for a hearing thereafter. The Disciplinary Officer may also order suspension of a student as follows:
      2. Suspension from one or more classes, privileges or activities for a period of up to ten (10) instructional days. If a minor student is suspended, the parent or guardian shall be notified in writing of the suspension (Education Code Section 76031).
      3. Suspension from one or more classes, privileges or activities for the remainder of the school term, or for one or more terms. If a minor student is suspended, the parent or guardian shall be notified in writing of the suspension (Education Code Section 76031).

J. Warning: A verbal or written notice to the student that continuation or additional violations of code of conduct may be cause for subsequent disciplinary action. A written record of the fact that a verbal warning has been issued may become part of a student’s record at the District for a period of up to one year. Failure of the District to expunge the written record of a verbal warning after one year shall not be the basis for any legal action against the District. Written warnings shall become part of a student’s permanent record at the District.
C. Procedures for all other disciplinary actions:
1. Students accused of alleged misconduct shall be referred to the Disciplinary Officer. The Disciplinary Officer may require a written statement relevant to the alleged misconduct. The Disciplinary Officer has the right to impose disciplinary action based on good cause as set out in Board Policy 5500 following the disciplinary action procedures below.
2. In cases of alleged student misconduct, the Disciplinary Officer or designee shall use all reasonable means to contact the student to notify him or her of the allegations and to provide an opportunity for the student to respond. The Disciplinary Officer shall offer the student the opportunity to address the accusations and/or instances of alleged misconduct verbally or in writing. Students must respond within 2 days of receiving notice. Failure to respond shall be deemed a waiver of the right to contest any discipline imposed or other action taken.
3. After considering the student’s response and considering all information relative to the issue, the Disciplinary Officer may choose to take any of the following actions:
   a. Drop the charges for lack of evidence.
   b. Issue a warning.
   c. Prohibit the student from intentionally contacting (e.g., by telephone or email), or otherwise disturbing the peace of others specifically named for a specified period of time.
   d. Place the student on suspension status including one or more of the following:
      1. Suspension from one or more classes or activities (sports, student government, field trips, drama events, etc.) for a period of up to ten days. Any decision to suspend a student for up to ten days shall be final and may not be appealed.
      2. Suspension from one or more classes or activities for the remainder of the term.
      3. Suspension from all classes and activities for one or more terms.
   e. Recommend expulsion to the Board of Trustees.
   f. Any other action the Disciplinary Officer deems appropriate.

D. Informal Agreement of Resolution: In cases where the Disciplinary Officer determines that an Informal Agreement is appropriate, the accused student will be informed that the Informal Agreement, while not a part of the student’s permanent record, is binding. If the student fails to abide by the Informal Agreement,
such failure will be regarded as actionable misconduct and may subject the student to disciplinary action.

E. Removal from Class by Instructor: An instructor may remove a student from class for the day of the removal and the next class meeting (no matter the length or type of class) for any good cause. The instructor shall immediately report the removal to the Disciplinary Officer. If the student removed is a minor, the Disciplinary Officer shall invite the student’s parent or guardian to attend a parent conference regarding the removal as soon as possible. If the instructor or parent or guardian so requests, a District administrator shall attend the conference. During the period of removal, the student shall not be returned to the class from which he or she was removed without the concurrence of the instructor (Education Code Section 76032). Decisions on such removals shall be final and cannot be appealed.

F. Failure to Comply with Program-Specific Policies and Procedures: Sierra College offers educational programs and services that require compliance with specific policies, procedures and standards including but not limited to, Nursing, Public Safety, Study Abroad, Health Center, and Residence Life. Students who fail to comply with these policies will be disciplined according to the specific mandates of the program. This does not preclude discipline against students enrolled in those programs and services for other alleged misconduct under these procedures.

G. Financial Aid: Any student suspended or expelled from the District shall be ineligible for scholarships, loans, grants, or any other financial aid during the period of suspension or expulsion.

H. Employment: Any student suspended or expelled from the District shall be ineligible for student employee status with the District for the period of suspension or expulsion.

I. Fees: No student suspended or expelled shall be refunded or credited any fees paid by and/or for the student.

J. Deadlines: Failure of the District to meet any of the deadlines specified in this Procedure shall not be construed against the District or result in a finding in favor of the student.

K. Right to include Statement or Response to Disciplinary Action: Pursuant to Education Code 76233, whenever there is included in any student record information concerning any disciplinary action taken by the Disciplinary Officer in connection with the student, the student shall be allowed to include in such a record a written statement or response concerning the disciplinary action.

Disciplinary Appeal Procedures
If a decision is made to suspend the student for more than ten days or to recommend expulsion, the student will be provided a written notice of the disciplinary action. If the student is a minor, the parent or guardian shall also be provided written notice. The notice shall include:

A. A statement of the charges, which shall identify the cause for which long-term suspension or recommended expulsion is being imposed. The statement shall briefly describe the facts alleged as a basis for violation of the student code of conduct.

B. Notification of the student’s right to file an appeal leading to the due process outlined below.

C. Notification that the Disciplinary Appeals Committee may consider the student’s previous disciplinary and academic record.

D. Notification of the student’s right to be accompanied by an advisor. If the student is accompanied by an attorney, the name and address of that attorney must be submitted to the office of the Vice President, Student Services at the time the filing of an appeal is made. Failure to do so shall constitute good cause for a continuance of the hearing and good cause to exclude the attorney. If the student is represented by an attorney, the District will also be represented by an attorney.
The role of the advisor or attorney shall be passive in this procedure. The advisor or attorney may be present at the appeal hearing and may counsel the student responding to questions relating to the incident. The advisor or attorney may not address the Disciplinary Appeals Committee and shall not be permitted to participate in any way during the hearing except to offer counsel to the student.

E. If the suspended student is a minor, the parent or guardian shall also be notified in writing of the suspension.

F. A copy of these procedures.

G. A Disciplinary Appeal form.

The notice letter may be amended at any time. If an amendment would require the student to prepare a substantially different defense, the Disciplinary Officer may postpone the hearing for a reasonable time, not to exceed ten days.

The student must submit the Disciplinary Appeal form to the Disciplinary Officer no later than three instructional days after receipt of the notice. Failure to submit an appeal form will be presumed to be the student’s acceptance of the disciplinary action. If the student requests an appeal, the Disciplinary Officer will convene a meeting of the Disciplinary Appeals Committee within ten instructional days from the date the Disciplinary Appeal form is filed. The student must contact the office of the Vice President, Student Services for a hearing date.

During the appeals process, students will be allowed to continue with their scheduled classes and activities through the due process procedures unless the Disciplinary Officer has removed the student’s privileges to participate in classes or activities or to remain on District-controlled property through the due process procedures in circumstances where the student is considered a threat to the health, safety, or well-being of other members of the campus community.

Disciplinary Appeal Hearings
The Disciplinary Appeals Committee shall consist of three members: one administrator, one faculty member, and one student. The District Superintendent/President or designee shall appoint a chair to the Disciplinary Appeals Committee. The chair shall be non-voting. The chair will request that the Management Senate, Academic Senate, and Student Senate appoint representatives. Committee members shall not in any way be connected to the event out of which the action arose.

Hearing Process
1. The hearing shall be convened within ten instructional days from the date an appeal is filed. The hearing shall be limited to one meeting, unless required otherwise by due process.
2. The student shall be given not less than 48 hours advance notice of the time, date and place of the hearing.
3. The hearings need not be conducted according to technical rules relating to evidence and witnesses. Any relevant evidence shall be admitted if it is the sort of evidence on which responsible persons are accustomed to rely in the conduct of serious affairs. Hearsay evidence may be used for the purpose of supplementing or explaining other evidence, but shall not be sufficient in itself to support a finding. Unduly repetitious evidence may be excluded.
4. The Disciplinary Officer shall carry the burden of proof by a preponderance of the evidence in support of the disciplinary action. The decision shall be by a majority vote.
5. The student and the Disciplinary Officer have the right to present police reports, written and/or oral statements. Written statement of individuals not present at the hearing must be made under penalty of perjury and must be submitted to the Chair prior to the start of the hearing. If the written statement is disputed by either side, the Chair may continue the hearing to allow the objecting party to secure the attendance of the witness, obtain contradictory evidence, or such other remedy determined by the Chair.
6. All proceedings of the Committee shall be closed to everyone other than the Committee members, the Disciplinary Officer, the student(s) charged, a witness while presenting evidence, the advisor or attorney for the student, and the advisor or attorney for the District. All participants shall maintain the strictest confidentiality. If the student is a minor, the student’s parents may also be present.
7. Final deliberations will be conducted with only the Committee members present.
8. The Committee will consider all available evidence relevant to the appeal.
9. The Disciplinary Appeals Committee will provide a written report of its findings to the District Superintendent/President within three instructional days after the conclusion of the hearing. The Committee may choose any of the following options: (a) uphold the action; (b) revoke the action; (c) impose a lesser action; or (d) impose a more severe action.
10. All Disciplinary Appeals Committee hearing proceedings shall be recorded and all participants will be advised as such. The recordings shall be maintained by the Office of the Vice President, Student Services for two calendar years, along with copies of all decisions made. Access to the recordings and copies of decisions made, shall be limited to the parties involved or as otherwise required by law.

The District Superintendent/President or designee shall review the report of the Disciplinary Appeals Committee. The District Superintendent/President or designee may consult with the chairperson and, if necessary, refer the matter back to that committee for additional clarification. Neither the student nor the parent/guardian shall have a right to a hearing by the District Superintendent/President. The District Superintendent/President or designee shall render a decision as soon as reasonably practicable, which in most cases shall occur within three days of receipt of the report. The District Superintendent/President’s decision is final except for such matters as are required to be determined by the Board of Trustees.

Upon suspension or expulsion of a student, the District Superintendent/President or designee shall notify appropriate law enforcement authorities of any acts of the student that may be in violation of Section 245 of the Penal Code (Education Code 76035).

Scope of Expulsion
Expulsion of a student is the permanent denial of student status and all attending rights and privileges. The District Superintendent/President may recommend expulsion of a student for “good cause” as defined in Board Policy 5500.

Students’ Rights and Recourses
Students are encouraged to pursue their academic studies and become involved in other College-sponsored activities that promote their intellectual growth and personal development, free of unfair and improper actions on the part of any member of the academic community. If, at any time, a student feels that he or she has been subject to an unjust action or decision, redress may be sought as prescribed in the associated administrative procedure:

Academic Accommodations. Students with verified disabilities shall have the right to receive appropriate academic adjustments and auxiliary aids as specified in the Americans with Disabilities Act and Section 504 of the Federal Rehabilitation Act of 1973 (see Administrative Procedure 5140).

Course Grades. Course grades, to the extent permitted by Education Code 876224(a), which provides, “When grades are given for any course of instruction taught in a community college district, the grade given to each student shall be the grade determined by the instructor of the course and the determination of the student’s grade by the instructor, in the absence of mistake, fraud, bad faith, or incompetency, shall be final” (See Administrative Procedure 4231).
Discrimination (see Administrative Procedure 3435). Harassment (see Administrative Procedure 3435).

Students are afforded the following rights:

• The right of free expression protected by state and federal constitutions and Education Code 76120.
• The right to have academic records treated in a confidential and responsible manner with due regard to the personal nature of the information these records contain. Student records will be released only with the written consent of the student or as provided by law and pursuant to Administrative Procedure 5040.
• The right to take reasonable exception to the data or views offered in any course of study without disrupting the instructional environment and to reserve judgment about matters of opinion.
• The right to be free from unfair or improper action.
• The right to participate in the formation of policy affecting students in accordance with established procedures for shared governance.
• The right to petition to form an organization around any particular interest, including the freedom to organize and to join student organizations, subject to published campus and District regulations.

Students who allege that an action or decision by the District has violated their rights as listed above may file a grievance as outlined in the Students' Rights and Grievances policy (Administrative Procedure 5530).

Students’ Rights and Grievances

A grievable matter is an alleged action or decision of the District that adversely affects the status of a student or violates the rights of a student as set forth in Board Policy 5530. The following allegations or issues shall not be heard under this procedure:

• Discipline of students (see Administrative Procedure 5520)
• Discipline of employees
• Traffic or parking citations (through Campus Parking and Security Services)
• Grade changes (see Administrative Procedure 4231)
• Discrimination or sexual harassment complaints other than academic accommodation. (See Board Policies 3410 and 3430 and Administrative Procedures 3410, 3430 and 3435)

Procedures for grievances and complaints are provided below and provide exclusive means for resolving any alleged unfair or improper action. The purpose of this procedure is to secure an equitable solution to student complaints at the lowest level possible. Some education programs may have specific processes and procedures for grievances and complaints.

The District Superintendent/President shall appoint an employee who shall serve as the Grievance Officer. The Grievance Officer shall serve to assist all parties to facilitate a full, fair and efficient resolution of the grievance, shall coordinate all scheduling of hearings, and shall avoid an adversarial role.

Failure of the District to meet any of the deadlines specified in this procedure shall not be construed against the District nor result in a finding in favor of the student.

Informal Grievance Process

A student who believes that his/her rights have been violated must make a reasonable, good faith attempt to resolve the matter through the informal grievance process before the formal process can be requested. At any point during the informal grievance process level, a student may also informally and orally present the complaint to the Grievance Officer.

First Step The student should discuss the problem directly with the person involved or see the grievance officer for assistance in problem resolution within sixty instructional days from the date the student became aware of the problem or the alleged act. Failure of the student to act within the above-specified sixty day period shall constitute a waiver of the right to pursue the matter further.

Second Step If the problem cannot be resolved at the first step, the student shall discuss the problem with the immediate supervisor of the person against whom the complaint is directed. The immediate supervisor shall make every effort to resolve the problem with the student and the person being grieved.

Third Step If the problem cannot be resolved at the second step, the student shall discuss the grievance with the next-level administrator within ten working days from receiving a decision from the immediate supervisor.

Formal Grievance Process

Within five instructional days of the completion of the informal grievance process, the student may file a formal grievance by submitting a Grievance Form to the Grievance Officer. The Grievance Form may be obtained from the Grievance Officer. The Grievance Officer will determine whether the allegations are grievable under administrative procedure as follows:

• The grievant was an enrolled student at the time the alleged incident occurred;
• The student has completed the informal process;
• The timelines have been met;
• The complaint, if true, would constitute a violation of Board Policy 5530;
• There is a remedy which is within the authority of the District to grant;
• There is not another prescribed administrative channel for due process.

If the grounds for grievance have been satisfied, a formal hearing before the Grievance Committee will be scheduled within ten instructional days of the request. The student must contact the office of the Vice President, Student Services for the hearing date.

Grievance Hearings

The Grievance Committee shall consist of three members: one administrator, one faculty member, and one student. The Grievance Officer shall serve as the chair. The chair will request that the Management Senate, Academic Senate, and Student Senate appoint representatives. Committee members shall not in any way be connected to the event out of which the action arose.

Hearing Process

1. The hearing shall be convened within ten instructional days of the request. The hearing shall be limited to one meeting unless required otherwise by due process.
2. The student shall be given not less than 48 hours advance written notice of the time, date and place of the hearing.
3. If the student is accompanied by an attorney, the name and address of that attorney must be submitted to the Office of the Vice President, Student Services at the time of filing the request for a formal grievance. Failure to do so shall constitute good cause for the continuance of the hearing and good cause to exclude the attorney. If the student is represented by an attorney, the District will also be represented by an attorney. The role of the advisor or attorney shall be passive in this procedure. The advisor or attorney may be present at the appeal hearing and may counsel the student responding to questions relating to the incident. The advisor or attorney may not address the Grievance Committee and shall not be permitted to participate in any way during the hearing except to offer counsel to the student.
4. The decision of the Grievance Officer shall be final on all matters relating to the conduct of the hearing unless there is a two-thirds majority vote of the members of the Grievance Committee to the contrary.
5. The hearings need not be conducted according to technical rules relating to evidence and witnesses. Any relevant evidence shall be admitted if it is the sort of evidence on which responsible persons are accustomed to rely in the conduct of serious affairs. Hearsay evidence may be used for the purpose of supplementing or explaining other evidence, but shall not be sufficient in itself to support a finding. Unduly repetitious evidence may be excluded.
6. The burden of proof by a preponderance of the evidence shall be carried by the grievant.
7. The Grievance Officer shall assist all parties in the securing of supporting information.
8. Each party of the grievance may provide the Grievance Committee with police reports, written and/or oral statements. Written statements of individuals not present at the hearing must be made under penalty of perjury and must be submitted to the Grievance Office prior to the start of the hearing. If the written statement is disputed by either side, the Grievance Officer may continue the hearing to allow the objecting party to secure the attendance of the witness, obtain contradictory evidence, or such other remedy determined by the Grievance Officer.
9. All proceedings of the Grievance Committee shall be closed to everyone other than the Committee members, the Grievance Officer, the student grievant, a witness while presenting evidence, the advisor or attorney for the student, and the advisor or attorney for the District, the person being grieved, and the advisor or attorney for the person being grieved. All participants shall maintain the strictest confidentiality.
10. Final deliberations will be conducted with only the Grievance Committee members present.
11. The Grievance Committee will consider all relevant evidence pertaining to the appeal and issue a written report to the District Superintendent/President.
12. All Grievance Committee hearing proceedings shall be tape recorded. The tape recordings shall be maintained by the Grievance Officer for two calendar years, along with copies of all decisions made. Access to the tapes and copies of decisions made shall be limited to the parties involved, unless otherwise required by law.
13. The Grievance Committee will provide its findings to the District Superintendent/President within three instructional days after the conclusion of the hearing.

Decision by the District Superintendent/President

• The grievant shall not have a right to a hearing by the District Superintendent/President.
• The District Superintendent/President shall review the report of the Grievance Committee.
• The District Superintendent/President may consult with the Grievance Officer.
• The District Superintendent/President shall submit a written decision to all parties concerned.
• The District Superintendent/President may accept or reject the findings and recommendations of the Grievance Committee.
• Once the District Superintendent/President makes a decision, the grievance process has been completed.
• There is no right of appeal to the Board of Trustees.

The Student Rights and Responsibilities Handbook is available on the Sierra College web site at www.sierracollege.edu, under Student Rights and Responsibilities. Students may also obtain copies of the Student Rights and Responsibilities Handbook at: Rocklin Campus, Office of the Dean, Student Services, (916) 660-7304; Sierra College-Nevada County Campus, Dean, Administration Building, (530)-274-5301; Sierra College-Roseville Gateway Center, Admissions Office, (916) 781-6204.

Disability
The Sierra Joint Community College District does not discriminate on the basis of disability in admission, access, treatment, or employment for any of its programs and activities. Section 504 of the Rehabilitation Act of 1973, as amended, and the regulations adopted thereunder prohibit such discrimination. Students seeking information regarding Section 504 should contact the Disabled Student Programs and Services Office at (916) 660-7460. The District is in compliance with the Americans with Disabilities Act of 1990. Inquiries concerning compliance may be addressed to the Equal Employment Opportunity Program Manager, (916) 660-7006.

Academic Accommodations Policy
Disabled Students Programs and Services (DSPS) provides programs and support services to students with verified disabilities. The program assures that disabled students have equality of access to classes and programs.

The goal of providing reasonable academic accommodations to disabled students is to minimize the effects of the disability in the educational process. The disabled students need to be given the opportunity both to acquire information and to be evaluated in a way which allows the student to fully demonstrate his/her knowledge of the subject.

Academic accommodations are individually determined by DSPS certificated faculty in consultation with the students and are based on a review of the functional educational limitations associated with the disability. Appropriate reasonable accommodations will be made in a timely manner.

Student Responsibilities:
1. The student must be enrolled in Sierra College classes and must provide the DSPS office with a written verification of their disability including identification of educational limitation(s) due to the disability.
2. Each semester and/or as needed during the semester the student will schedule an appointment to meet privately with a DSPS certificated faculty member to request the academic accommodation(s). The student may, at any time, also request the accommodation directly from the classroom faculty member.
3. The DSPS certificated faculty member will evaluate the requested accommodation on a course-specific basis and will interact and consult as necessary with the student, class instructor(s), and DSPS Coordinator to identify the appropriate reasonable academic accommodation for each class. Where it is determined that the accommodation would fundamentally alter the nature of a class or program, the DSPS certificated faculty member will consult further with the instructor to determine whether an alternative accommodation can be identified. A Disabled Student Services Academic Accommodation Certification form will be completed for each class and provided to the student at the time of the appointment.
4. The student will give a copy to the classroom faculty member to certify the college’s authorization of the accommodation. A copy of the certification will be provided to the student and a copy will be maintained in the student’s DSPS file.

If the student disagrees with the accommodation determination:
1. The student should contact the DSPS certificated faculty at any time for further interaction. If the student continues to disagree with the accommodation, he/she will be referred to the DSPS Coordinator or designee. If there is not further contact made by the student it will be assumed that the student no longer disagrees with the accommodation determination.
2. The DSPS Coordinator or designee will discuss and confer with the DSPS certificated faculty member, the class instructor and other resources as appropriate to review the student’s disability and make a determination regarding the appropriate accommodation within
five instructional days from the date the student contacted the DSPS Coordinator.

3. If the student is still not satisfied with the disposition of this accommodation, the DSPS Coordinator will refer the request to the District ADA/504 Compliance Officer. The Compliance Officer will confer with all necessary parties and make a final determination on behalf of the District within thirty instructional days from the date the certification was signed by the DSPS certificated faculty member.

Computer and Network Use
The District has the right to monitor any and all aspects of the computer use and telephone voice mail systems, including employee or student email or voice mail, to ensure compliance with policies and procedures. The computers, computer accounts, and voice mail accounts given to employees and students are to assist them in the performance of their job duties or their academic studies. Employees and students should not have any expectation of privacy in anything they create, send, or receive via the computer or the telephone. The computer and telecommunication systems belong to the District and are intended for business and academic purposes only.

Computer and telecommunication resources and services include, but are not limited to, the following: host computers, file servers, work stations, stand-alone computers, laptops, software, and internal or external communications networks that are accessed directly or indirectly from the District’s computer facilities.

Drug and Alcohol Free Campus
Sierra College is committed to a drug and alcohol-free campus for students, faculty and staff. It emphasizes prevention and intervention through education. The unlawful manufacture, distribution dispensing, possession or use of alcohol or any controlled substance is prohibited on District property, during District-sponsored field trips, activities or workshops, and in any facility or vehicle operated by the district.

Violation of this prohibition will result in appropriate action up to and including termination of employment, expulsion, and referral for prosecution, or, as permitted by law, may require satisfactory participation in an alcohol or drug abuse assistance or rehabilitation program. For confidential assistance and referral regarding drug and alcohol use, call:

Rocklin Campus: Counseling (916) 660-7400

Health Center (916) 660-7490

Nevada County Campus:
Counseling (530) 274-5303

Jeanne Clery Disclosure of Campus Security Policy and Campus Crime Statistics Act
In compliance with the Clery Act, Sierra College publishes and distributes an annual security report. The report includes statistics for the previous three years concerning reported crimes that occurred on-campus; in certain off-campus buildings or property owned or controlled by Sierra College; and on public property within or immediately adjacent to and accessible from the campus. The report also includes institutional policies concerning campus security, such as policies concerning sexual assault, and other matters. You may obtain a copy of the report by contacting the Campus Parking & Security Services Office or by accessing the website at www.sierracollege.edu/StudentServices/CampusSecurity. Public information regarding sex offenders may be obtained by accessing the Megan’s Law website at www.meganlaw.ca.gov.

Non-Discrimination Policy in Student Programs and Activities
The Sierra Joint Community College District has established non-discrimination policies which conform to applicable state and federal laws. These statutes prohibit discrimination and sexual harassment against all students. It is District policy to provide equal opportunities for all students in admission and access to academic courses, counseling programs, athletic programs, apprenticeship programs, assessment procedures, vocational education and other activities, without regard to students’ race, color, religious creed, national origin, ancestry, ethnic group identification, physical or mental disability, gender, sexual orientation or lack of English language skills. Inquiries concerning compliance may be addressed to the Equal Employment Opportunity Program Manager, (916) 660-7006. Students seeking information regarding Section 504 of the 1973 Rehabilitation Act should contact the Disabled Student Programs and Services Office at (916) 660-7460.

Política de No Discriminación En los Programas y Actividades Estudiantiles
El distrito adjunto de los colegios comunitarios de la comunidad de Sierra ha Establecido políticas de no discriminación que se ajusten a las leyes estatales y fede-
Disability: Contact the Equal Employment Opportunity Program Manager, (916) 660-7006.

The District shall be free of sexual harassment and all forms of sexual intimidation and exploitation and other unlawful harassment, including that which is based on any of the following statuses: national origin, religion, religious creed, age, sex (gender), race, color, medical condition, ancestry, sexual orientation, marital status, physical disability, mental disability, or perception of having one or more of the foregoing characteristics. Students who wish to review Sierra College’s complete Harassment Policy, or who believe they may have been the victim of harassment should contact the Equal Employment Opportunity Program Manager, (916) 660-7006.

Speech: Time, Place and Manner
The District is committed to providing its students and the community at large the ability to exercise their rights of free expression subject to the time, place and manner contained in Board Policy 5550.

District sites are non-public forums except for those areas that are defined as limited public forums. These limited public forums are available to students and the community and include all outdoor areas that are outside 30 feet of any building or similar structure. The District reserves the right to revoke the limited public forum designation and apply a non-public forum designation based not on speech content but on previously scheduled, dedicated use of a particular space that has been reserved for District-related functions.

The use of the limited public forums is subject to the following:
Persons using the limited public forum and/or distributing material in the limited public forums shall not: impede the progress of passersby, nor shall they force passersby to take material; not touch, strike or impede the progress of passersby, except for incidental or accidental contact, or contact initiated by a passerby; not use any means of amplification that creates a noise or diversion that disturbs or tends to disturb the orderly conduct of the campus or classes taking place at that time.

No persons using the limited public forums shall solicit donations of money, through direct requests for funds, sales of tickets or otherwise, except where he or she is using the limited public forums on behalf of and collecting funds for an organization that is registered with the Secretary of State as a nonprofit corporation or is an approved Associated Students Organization or club.

All persons using the limited public forums shall be allowed to distribute petitions, circulars, leaflets, newspapers, and other printed matter. Such distribution shall take place only within the limited public forums. Material distributed in the limited public forums that is discarded or dropped in or around the limited public forums other than in an appropriate receptacle must be retrieved and removed or properly discarded by those persons distributing the material prior to their departure from the limited public forum that day.

Speech shall be prohibited that is defamatory, obscene according to current legal standards, or which so incites others as to create a clear and present danger of the commission of unlawful acts on district property or the violation of district policies or procedures, or the substantial disruption of the orderly operation of the District.

Nothing in this policy shall prohibit the regulation of hate violence, so long as the regulation conforms to the requirements of the First Amendment to the United States Constitution, and of Section 2 of Article 1 of the California Constitution. The District will take action as
appropriate for harassment, threats, intimidation, or hate violence unless such speech is constitutionally protected.

**Student Right-to-Know Disclosure**

In compliance with the Student Right-to-Know and Campus Security Act of 1990, it is the policy of Sierra College to make available its completion and transfer rates to all current and prospective students. Beginning in Fall 2006, a cohort of all certificate-, degree-, and transfer-seeking first-time, full-time students were tracked over a three-year period. Their completion and transfer rates are listed below. These rates do not represent the success rates of the entire student population at Sierra College nor do they account for student outcomes occurring after this three-year tracking period.

Based upon the cohort defined above, 27.08% attained a certificate, degree, or became “transfer-prepared” during a three-year period from Fall 2006 to Spring 2009. Students who have completed 60 transferable units with a GPA of 2.0 or better are considered ‘transfer prepared’.

Based upon the cohort defined above, 20.37% transferred to another postsecondary institution prior to attaining a degree, certificate, or becoming “transfer prepared” during a five semester period from Spring 2007 to Spring 2009.

More information about Student Right-to-Know Rates and how they should be interpreted may be found at the California Community College Student Right-to-Know Disclosure Website located at http://srtk.cccco.edu/index.asp.

**Title IX Information**

It is the policy of the Sierra Joint Community College District to ensure compliance with Title IX of the Education Amendments of 1972 by assuring that no student or employee shall on the basis of sex be excluded from participation in, be denied the benefits of, or be subject to discrimination under any educational program or activity receiving federal financial assistance.

Such programs and activities include admission of students, assessment procedures, counseling programs, access to academic courses, athletic programs, career technical education and other activities. Inquiries concerning compliance may be addressed to the Equal Employment Opportunity Program Manager, (916) 660-7006.

**Tobacco Use on Campus**

Sierra College is committed to providing a safe and healthy environment for its students, employees, and visitors. In light of evidence that the use of tobacco and exposure to secondhand tobacco smoke pose significant health hazards, the District has established a tobacco-free environment effective January 1, 2011. Until that time, the policy detailed below remains in force.

The use of tobacco products is prohibited within 30 feet of any building or similar structure, building doorway, window overhang, or air intake vent, upon District owned or controlled properties. Use of tobacco products includes the smoking of cigarettes, pipes, cigars, or other tobacco products. The use of smokeless tobacco products (e.g., chewing tobacco) is strongly discouraged.

**Use of Copyrighted Material**

Employees and students shall not use copyrighted materials in a way which violates one of the copyright owner’s exclusive rights without permission from the owner unless that use is allowed by the laws pertaining to fair use. See Sierra College Administrative Procedure 3750.

**Visitors on Campus**

All persons visiting the campus are expected to conduct themselves in accordance with standards of the District which are designed to perpetuate its educational purposes, and to comply with campus rules, city and county ordinances, appropriate educational code sections, and state laws.

Visitors are welcome at all public meetings held at District facilities. However, no person, including but not limited to children, relatives or friends of students or employees, shall attend any class, laboratory, field trip or any other instructional or educational activity for which they are not registered or enrolled without verifiable permission from the Dean, Director, Supervisor, or Instructor of Record.

**Weapons on Campus**

Firearms or other weapons shall be prohibited on any College or District center or in any facility of the District except for activities conducted under the direction of District officials or as authorized by an official law enforcement agency.
Academic Freedom Policy

Definition
Academic Freedom is the freedom and duty of professionally qualified persons to inquire or investigate, to discuss, publish or teach the truth as they see it in line with the tools of their discipline, subject to no religious or political control or authority, except the control of standards of professional ethics or the authority of the rational methods by which truths and conclusions are established in the disciplines involved. Both the protection of academic freedom and the requirements of academic responsibility mentioned in Board Policy 4030 apply not only to the full-time probationary and the tenured teacher but also to all others, such as part-time teachers and teaching assistants who exercise teaching responsibilities.

Philosophy Statement
Sierra College supports the American Association of University Professors (AAUP) Statement of Principles on Academic Freedom and Tenure, both the rights and duties specified therein. The philosophy statement that follows reiterates the principles specified in the AAUP Statement.

Institutions of higher education are conducted for the common good and not to further the interest of either the individual teacher or the institution as a whole. The common good depends upon the free speech for truth and its free exposition. Academic freedom is essential to these purposes and applies to both teaching and research. Freedom in research is fundamental to the advancement of truth. Academic freedom in its teaching aspect is fundamental for the protection of the rights of the teacher in teaching and of the student to freedom in learning. It carries with it duties correlative with rights.

a) The teacher is entitled to full freedom to research in the publication of results, subject to the adequate performance of their other academic duties; but research for pecuniary return should be based upon an understanding with the authorities of the institution.

b) The teacher is entitled to freedom in the classroom in discussing their subject, but they should be careful not to introduce into their teaching controversial matter that has no relation to their subject. The intent of this statement is not to discourage what is “controversial.” Controversy is at the heart of free academic inquiry. Indeed, there would be no need for an Academic Freedom policy to protect teaching of the uncontroversial. This passage serves to underscore the need for teachers to avoid persistently intruding material that has no relation to their subject and hence cannot be in line with the tools of their discipline.

c) The college teacher is a citizen, a member of a learned profession, and an officer of an educational institution. When they speak or write as a citizen, they should be free from institutional censorship or discipline, but their special position in the community imposes special obligations. As a person of learning and an educational officer, they should remember that the public might judge their profession and their institution by their utterances. Hence an individual should at all times be accurate, should exercise appropriate restraint, should show respect for the opinions of others, and should make every effort to indicate that they are not an institutional spokesperson.

Other duties correlative with the rights of Academic Freedom include the following.

a) While the teacher has the duty to design assessments to measure a student’s mastery of course content, s/he must recognize and respect the distinction between the student’s mastery of course content and the student’s freedom of belief. Teachers assess student learning for mastery of course content. Decisions as to course content and quality of scholarship are to be made by reference to the standards of the academic profession, as interpreted and applied by the community of scholars who are qualified by expertise and training to establish such standards. A student’s freedom of belief references an individual student’s subjective decision to agree or disagree with the curricular content of a particular course within a broader academic discipline. Instructors have a duty to enhance student learning by assessing mastery of course content but have no authority to compel student belief.

b) The College has a duty to adopt a student grievance policy for instances where a student believes her/his rights to have been violated. Sierra College has adopted a student grievance policy and this policy is readily available to all students in this catalog and the “Student Rights and Responsibilities Handbook.” College employees have a responsibility to educate students about the grievance policy and to facilitate the student grievance process.
Administration, Faculty and Staff

Board of Trustees

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Area 2 (Kings Beach)

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Vice President/Clerk, Area 7 (Colfax)

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President, Area 1 (Lincoln)

**Student Trustee**

Staffing Policy

Sierra College, recognizing that as a community college it should reflect the ideals and standards of the community, wishes to reiterate and emphasize its long-standing policy of non-discrimination in the employment of faculty and staff.

Administration

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Matt Fertel  Applied Art & Design/Art/Photography  
Linda Fisher  Finance  
Dawn Flannery  Business, Applied Academics, & Physical Education  
Earl Flannery  Parking & Security, SC-NCC  
Lorraine Flynn  Writing Center  
Gary Flynn  Mail Services  
Kara Franks  Admissions & Records  
Terry Gallegos  Counseling  
Wilhemina Garcia  Learning Center  
Sydney Gatson  Admissions & Records
<table>
<thead>
<tr>
<th>Name</th>
<th>Department</th>
</tr>
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<tbody>
<tr>
<td>Adele Hamlett</td>
<td>Community Education, SC-RGC</td>
</tr>
<tr>
<td>Maria Hernandez</td>
<td>English as a Second Language</td>
</tr>
<tr>
<td>Carol Hanawalt</td>
<td>Admissions &amp; Records</td>
</tr>
<tr>
<td>Kerri Hester</td>
<td>Finance</td>
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<tr>
<td>Joyce Hansen</td>
<td>Instruction Office</td>
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<tr>
<td>Patricia Hill</td>
<td>Financial Aid</td>
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<tr>
<td>Cheryl Harris</td>
<td>Nursing</td>
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<tr>
<td>Kristin Hilton</td>
<td>Biological Sciences, SC-NCC</td>
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<tr>
<td>Laura Harris</td>
<td>Assessment</td>
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<tr>
<td>Margo Hollwager</td>
<td>Counseling</td>
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<tr>
<td>Matthew Harrison</td>
<td>Mathematics</td>
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<tr>
<td>Michael Huss</td>
<td>Automotive Technology</td>
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<tr>
<td>Colin Irwin</td>
<td>Facilities and Operations</td>
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<tr>
<td>Brandon Johnson</td>
<td>Physical Education and Athletics</td>
</tr>
<tr>
<td>John Healy</td>
<td>Information &amp; Instructional Technology</td>
</tr>
<tr>
<td>Mary Ann Jones</td>
<td>Health Services</td>
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<tr>
<td>William Hemphill</td>
<td>Information &amp; Instructional Technology</td>
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<tr>
<td>Katie Juras</td>
<td>Liberal Arts</td>
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<tr>
<td>Julio Hernandez</td>
<td>Custodial</td>
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<tr>
<td>Craig Kelly</td>
<td>Research &amp; Planning</td>
</tr>
<tr>
<td>Tammy Kenber</td>
<td>Human Resources</td>
</tr>
<tr>
<td>Deborah Kenitzer</td>
<td>Disabled Student Services, SC-NCC</td>
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<tr>
<td>Aleksandr Kerdey</td>
<td>Custodial</td>
</tr>
<tr>
<td>Sergey Khudyakov</td>
<td>Custodial</td>
</tr>
<tr>
<td>Tim Kyle</td>
<td>Facilities Maintenance</td>
</tr>
<tr>
<td>Thomasina Lane</td>
<td>Admissions &amp; Records</td>
</tr>
<tr>
<td>James Langley</td>
<td>Information &amp; Instructional Technology</td>
</tr>
<tr>
<td>Mark Laws</td>
<td>Agriculture/Biological Sciences</td>
</tr>
<tr>
<td>Joann Leal</td>
<td>Student Services</td>
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<tr>
<td>Sharon Lee</td>
<td>Learning Resource Center</td>
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<tr>
<td>John Lervold</td>
<td>Information &amp; Instructional Technology</td>
</tr>
<tr>
<td>Jeff Lloyd</td>
<td>Transportation</td>
</tr>
</tbody>
</table>
Virginia Loder
Business, Applied Academics, & Physical Education
Alysia Lopez
Mechatronics
Cynthia Lowe
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Payroll
Sharon Ludden
Disabled Student Services
Julia Maak
Chemistry
Karen Mahoney
Student Services
Thomas Makimoto
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Rick McMurtry
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Deborah Meadows
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Amanda Mellett
Facilities/Operations
Manuel Mendoza
Grounds Maintenance
Bobby Merritt
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Susanne Michaels
Marketing/Public Relations
Patricia Miller
Liberal Arts
Ron Miyata
Grounds Maintenance
Gail Modder
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Business, Applied Academics, & Physical Education
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International Students
Denise Nichols
Extended Opportunity Programs & Services
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Bursar’s Office
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Tracy Shields
Instruction Office
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Shari Smith
Osher Lifelong Learning Institute
Timothy Smith
Information & Instructional Technology
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Laurel Thiers
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Anna Tivol
Library, SC-NCC
Anna Tivol
Library, SC-NCC
Anna Tivol
Library, SC-NCC
Anna Tivol
Library, SC-NCC
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Danita Tucker  
Parking & Security

Alistair Turner  
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Learning Center

Kevin Wellsfry  
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President & District Superintendent

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History

William C. Belvel  
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Pauliene Bond  
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Counseling

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Donald Cosper  
Sociology

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Administration of Justice

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Earth Science

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Perry Edwards  
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Richard L. Elliott  
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C. David Emerson  
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Physical Education/Special Education

Dr. James D. Furbee  
English

Salvatore F. Gianna  
Director of Computing & Information Services

Dr. Edward Gieszelmann  
Mathematics

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Electronics

Leslie D. Herrill  
Chemistry

William W. Hill  
Music

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Dean, Student Development

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Human Environmental Sciences

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Computer Integrated Electronics

Garvin L. Jabusch  
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Physical Education

Don M. Juergenson  
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Stephen A. Jung  
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Dr. Michelle Kalina  
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Kathleen Kolster  
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Neal Lemerise  
Forestry

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Marvin R. Linville  
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Richard S. Marasso  
Astronomy

Jacquelyne J. Marchi  
Extended Opportunity Programs & Services

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Accounting
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Vanessa Burke, C.P.A., Moss Adams LLP, Sacramento
Tamie Gierth, Gierth & Associates, Citrus Heights
Sabrina Higby, C.P.A., Higby Tax, Loomis
James Kim, SVP and CFO, Community 1st Bank, Auburn
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Jon Nexsen, Ernst & Young, Roseville
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Dan Seiler, C.P.A., Ueitzen & Co., Sacramento
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Dale Waldschmitt, Pacific Coast Companies, Inc., Rancho Cordova
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Sherri Yokomizo, Volcano Corp., Sacramento

Administration of Justice
Ed Bonner, Sheriff, Placer County, Auburn
John Foster, Police Chief, Grass Valley Police Department
Suzanne Gazzaniga, Supervising Attorney, Placer County District Attorney
Michael Gomez, POST Senior Consultant, Sacramento
Valerie Harris, Police Chief, City of Auburn
Niko Johnson, Domestic Violence Victim Rights Advocate, Nevada County
Dave Koppin, Supervising Agent, Placer County District Attorney’s Office, Auburn
Steve Pecor, Probation Officer, Placer County, Auburn
Dan Rudden, Captain, Rocklin Police Department
Ann Stadden, Training Manager, Roseville Police Department
Brian Vizzusi, former Police Chief, Lincoln Police Department
Richard Ward (Retired), Captain, California Highway Patrol

Agriculture
Bill Dale, Executive Director, California Beef Council
Cindy Fake, UCCE, Placer County
Laura Goss, Agriculture Teacher, East Nicolaus High School
Roger Ingram, UCCE, Placer County
Terry R. Jochim, Rancher, Grass Valley
Dan Kemp, Agriculture Teacher, Bear River High School, Grass Valley
Deirdre Lefty, Rancher/Farmer, Lincoln
Dan Macon, Executive Director, Nevada County Land Trust
Joann Neft, Former Agriculture Marketing Specialist, Placer County
Nancy Jo Rieske, Agriculture Marketing Specialist, Placer County
Mike Trueblood, Agriculture Teacher, Lincoln High School
Christine Turner, Agriculture Commissioner, Placer County
Barbara Vineyard, Sierra College Board Member, Rancher, Lincoln

Automotive Technology
Robert Butler, Owner, Pacific Auto, Auburn
Bill Cardwell, Car Care Center, Sacramento
Lynn Cardwell, Car Care Center, Sacramento
Art Coppock (Retired), Snap-on Tools, Sacramento
Vic Delius, Service Manager, Weaver Chevrolet, Alta
Bill Foster (Retired), California Highway Patrol
Ben French, American River College, Sacramento
Bill Happ, Woodcreek High School, Roseville
Ross Jackson, Technician, Placer County Fleet Services
Steve Ledbetter, Emeritus Professor, Sierra College
David Lewis, Engineer, Department of Consumer Affairs, Engineering and Technology Research, Sacramento
Tom Ley, Service Manager, Future Nissan, Roseville
Derek Mantel, Derek’s Auto Service, Citrus Heights
John Martin, Strictly Toy-ondas, Auburn
Michelle Oberg, Bureau of Automotive Repair, Citrus Heights
Dick Panciera, Service Manager (Retired), Reliable Pontiac and Cadillac, Roseville
John Panelli (Retired), Sierra College Automotive, Colfax
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Alan Rowley, Technician, Monroe Transmission
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Wess Tripp, Owner, Joe Gallardo’s Auto Service
Vince Wisniewski, Snap-on Tools

Computer Information Systems
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Patty Benton, Owner, JerPat VA Coaching
Debbie Blagstedt, Career and Retraining Consultant
Ronnie Cobb, Human Resources Manager, Raley’s Corporate Office, West Sacramento
Nancy Dewey, Senior Personnel Analyst, Placer County, Auburn
Christine Durst, Founder of Virtual Industry, Author, Owner-StaffCentrix
Jill Frank, Virtual Office Coordinator/Instructor, Santa Rosa Junior College
Lisa Grewohl, Director of Human Resources, Thunder Valley Casino, Lincoln
Chris Marshall, Instructor, Emily Griffith Opportunity School, Denver
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Kirsten Ryden, Manager, Roseville Science & Technology
Joanne Sweeney, 49er Regional Occupational Program
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Barbi Wiggins

Construction Technology
Mike Brown, Contractors State License Board
Joe Bean, Teichert Construction, Sacramento
Tim Ferris, Interior Wood Design, Inc., Auburn
Ed Jenkins, Placer County Building Department
David Martin, General Contractor, Folsom
Stuart Nemy, Owner, Nemy Quality Cabinets, Inc., Rancho Cordova
Marc Pohley, General Contractor, Auburn
Eric Reitzel, Reitzell Engineering, Rocklin
Ron Ridenourea, Homewood Lumber, Loomis
Steven Savage, Savage Millwork, Roseville

Disabled Student Programs & Services
Joseph Albert, Businessman
Chris Atkinson, Pride Industries
Scott Bramlett, Counselor, Sierra College
Beverly Bruce, Occupational Therapist, Vista Child Therapy
John Burton, Part-time Professor, Supportive Education, Sierra College
Molly Cromwell, Special Education Teacher, Placer County Office of Education
Eileen Dickson, Counselor, Sierra College
Dr. Fred Fuerst, Developmental Optometrist

Cathy Hodges, Special Education Teacher, Placer County Office of Education
Steve Johns, Department of Rehabilitation
Dr. Richard Koch, School of Education/Rehabilitation, California State University, Sacramento
Mark Kwoka, Counselor, Sierra College
David Lightfoot, Former Sierra College Student
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Larry Mozes, Assistant Superintendent, Placer County Office of Education
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Teri Prouty, Learning Disabilities Specialist, Sierra College
Tom Radmilovic, Alta Regional
Valerie Rogstad, Pride Industries
Loretta Seastrand, Parent
Martine Shelley, Professor, English, Sierra College
Carolyn Simmons, Student Services Technician, Sierra College
Pam Simmons, Teacher’s Aide, Placer County Office of Education
Susie Smith, Placer County Mental Health
Denise Stone, Emeritus Professor, Learning Disabilities, Sierra College

Disabled Student Services—Nevada County Campus
Ken Bigham, Golden Sierra Job Training Agency
Eric Bleasdale, Student, Sierra College
Riki Colby, Student, Sierra College
Mary Dewitt, Alta Regional Center
Tracy Fenyoee, Neighborhood Center of the Arts
Sara Frounfelder, Alta Sierra Regional Center
Kaylene Hallback, Dean, Student Services, Sierra College
Linda Kearns, Department of Rehabilitation
Andy Keefe, Student, Sierra College-Nevada County Campus
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Early Childhood Education
Robin Aly, 49er ROP Careers with Children, Nevada County
Wendy Axford, Little Friends Preschool
Laura Barhydt, Chana High School
Steven Bruce, Sierra College State Preschool, Citrus Elementary, Roseville
Lori Kearney-Capaul, Professor, Human Development & Family, Sierra College
Susana Castillo-Lopez, Placer Community Action Council
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Tanya Hanfhan, Tech Prep Consultant
Carolyn Hansen, City of Roseville
Ann Hiner, Part-time Professor, Human Development & Family, Sierra College

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Diane Katz, Placer Community Action Council
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Terri Maddux, Counselor, Sierra College
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Earl McGuire, Engineer, McGuire Engineering, Placerville
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Phil Titus, AIA, Rauschenbach Marveli Becker Architects, Sacramento
Marni Vincent, Design & Build Assistance, Colfax
Butch Webb, Centex Homes, Roseville

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Pat Hill, Student Services Technician, Sierra College
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Linda Williams, Program Manager, Financial Aid, Sierra College

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Michael Sommerfield, Owner, Miosa Couture

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Greg Burch, Battalion Chief, Truckee Fire Protection District
Mark D’Ambrogi, Chief, Auburn City Fire Department
Ed Horton, Loomis
Mike Papera, Placer County Office of Education, 49er ROP
Jeanne Pincha-Tully, U.S. Forest Service
David Ray, Battalion Chief, Nevada County Consolidated Fire District
Mark Romer, Director, Sierra College Fire Academy
Barton Ruud, Emeritus Professor, Sierra College
Randy Smith, Deputy Chief, NYP Unit, Cal Fire, Auburn
Tennis Tollefson, Fire Technology Program Coordinator, Sierra College

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Kevin Hill, Chairperson, Intel, Folsom
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David Kennedy, Engineer, Michrom Bioresources, Auburn
David Long, Line Maintenance Supervisor, NEC Electronics, Roseville
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Victor Maiello, Engineer, Schilling Robotics, Davis
Jim Purcell, Engineer, Line 6, Rocklin
Dan Quarton, Manager, Sierra Pacific Industries, Lincoln
Jerry Rein, Engineering Technician, Intermotive Vehicle Controls, Colfax
Mike Robinson, Private Consultant, Grass Valley
Craig Rohrsen, Tri Continent Scientific, Grass Valley
David Rosprim, Engineer, Grass Valley Group, Grass Valley
Steve Sanders, Engineer, 2Wire, Inc., Grass Valley
Dave Schorr, Network Administrator, Nvision, Grass Valley
Sue Scott, Technology Specialist, Dry Creek Joint Elementary School District, Roseville
David Snyder, James Cox and Sons, Colfax
David Stroud, Training Manager, Anheuser-Busch, Fairfield
Carrie Wetter, Recruiting Manager, Union Pacific Railroad, Roseville

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C. Brownlee, Education Department, Auburn Faith Hospital, Auburn
Aida Calpo, R.N., University of California, Davis Medical Center
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Nancy Dekker, Educational Services, Sierra Nevada Memorial Hospital, Grass Valley
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Gail Fisher, Sutter-Roseville Medical Center
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Mary Gish, R.N., M.S.N., Sierra Nevada Memorial Hospital, Grass Valley
Kathy Green, R.N., University of California, Davis Medical Center
Kay Jelten, R.N., Sutter General Hospital
Judy Lange, Assistant Administrator, Vencor Hospital, Sacramento
Pam Lippert, Director Patient Care Services, CPC Heritage Oaks Hospital, Sacramento
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