

A photograph of a large, modern building with a prominent, illuminated, geometric roof structure. The building is lit up at dusk, with warm interior lights visible through the glass doors and windows. In the foreground, there is a large, leafless tree and a grassy area. A red banner with white text is overlaid on the top right of the image.

SIERRA COLLEGE

Rocklin. Roseville. Grass Valley. Truckee. TV. Online. www.sierracollege.edu

2014-2015

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WELCOME

PHOTO BY DARYL STINCHFIELD

A Sierra College Publication

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(916) 624-3333



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(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

DISTRICT MISSION AND INSTITUTIONAL OUTCOMES

PHOTO BY TRAECE CRAIG

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.

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.

PHOTO BY DARYL STINGFIELD

Student Learning Outcomes

Student learning outcomes state the expected knowledge, skills, and abilities students possess as a result of utilizing services and completing a course, a certification or a degree. At Sierra College, instructional programs define student learning outcomes for their content areas and link them to courses, certificates and degrees. Student learning outcomes for individual programs may be found on the Sierra College website. Course student learning outcomes are included in the class schedule. The general education sequence supports students' attainment of the college's institutional outcomes, as do the student learning outcomes for student services. These outcomes align with our district mission, support our vision, and reflect our core values.

Institutional Outcomes

Students attend Sierra College for a variety of reasons. Based on their own educational goals and experiences, students will develop skills in the following areas:

Communication

1. Read—Use active reading skills to comprehend and interpret information and ideas from a variety of texts, including academic prose (such as textbooks, literature, primary and secondary sources, and scholarly journals), technical documentation (such as manuals, charts, graphs, and reports), and media sources (such as newspapers, magazines, websites and online databases).
2. Write—Communicate thoughts, ideas, and information effectively in writing in a variety of modes and for a variety of purposes. Accurately and persuasively convey information and ideas using logic, reasoning, and effective rhetorical strategies. Use correct grammar, spelling, punctuation, diction, style, and format.
3. Listen—Demonstrate active listening skills in classroom, community, personal, and professional situations. Interpret and respond appropriately to verbal and nonverbal communication in a variety of contexts.
4. Dialogue—Interact in a variety of dynamic situations by assessing the needs of the audience, creating a message, adapting to audience feedback, and responding appropriately. Through dialogue, build mutual understanding with individuals from various backgrounds.

Technology and Information Competency

1. Demonstrate Technical Literacy—Efficiently and accurately use current computer and other relevant technologies to acquire, process, and present information. Organize and maintain records.
2. Apply Technology—Use computer applications and other technologies in the learning process, real-world scenarios, and the workplace. Organize and maintain records.
3. Access Information—Recognize the need for information; choose and narrow topic. Formulate search questions.

Gather, organize, and discriminate among various sources of information.

4. Evaluate and Examine Information—Filter information for relevance and accuracy. Apply criteria to determine credibility. Utilize data gathered to draw conclusions. Construct meaning from expanding and conflicting information. Credit sources according to academic standards.

Critical and Creative Thinking

1. Inquire—Identify and understand questions or problems across disciplines and in practical applications. Develop hypotheses.
2. Analyze—Investigate and assess the validity or relevance of arguments, claims, or contentions supported by data, observation, experience, testing or analysis. Distinguish fact from opinion. Develop an interpretation with an awareness of different views and reasoning.
3. Problem Solve—Use sound reasoning to specify solutions and consequences. Test hypotheses using methods appropriate to the problem (such as the scientific method, mathematical reasoning, and principles of logic).
4. Express—Acquire an appreciation and involvement in the creation or performance of works of fine art, craft, music, drama, and/or culture. Participate in games, sports, dance, and outdoor pursuits based on individual interests and capabilities.

Citizenship

1. Ethics—Develop and apply ethical reasoning and decision making skills in academics, in the workplace, and in global and local communities. Value honesty, civility, empathy, interpersonal competence, social responsibility, and peaceful conflict resolution.
2. Diversity—Recognize, understand, and respect diversity of belief, culture, value, ability, gender, race, age, and sexual orientation.
3. Sustainability/Global Awareness—Develop values and behaviors that respect the natural environment. Evaluate social justice issues and identify social responsibilities to elicit social change. Recognize the ethical implications of political, social, and economic institutions.
4. Personal Responsibility—Accept personal responsibility by recognizing oneself as the principal cause for opportunities and experiences. Effectively develop, apply and manage a healthy physical lifestyle and emotional well-being; self-motivate through planning and acting to accomplish goals. Recognize the value of life-long learning. ■

2014–2015 ACADEMIC CALENDAR



PHOTO BY DARYL STINCHFIELD

Fall Semester 2014

August 25	INSTRUCTION BEGINS
August 30– September 1	Holiday (Labor Day)
September 7	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
September 8	Census Date
September 19	Deadline to Initiate Credit By Examination (Challenge)
September 26	Last Day to Request Pass/No Pass Grading for Full-Semester Class
October 1	Last Day to Request December 2014 Degree or Certificate
November 4	Last Day to Withdraw from Full- Semester Class and Receive a “W”
November 10	Holiday (Veterans Day)
November 27–29	Holiday (Thanksgiving)
December 13	Semester Ends
December 23– January 4	Campus Closed

Spring Semester 2015

January 19	Holiday (Dr. Martin Luther King, Jr. Day)
January 26	INSTRUCTION BEGINS
February 8	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
February 9	Census Date
February 13–16	Holiday (Presidents’ Weekend)
February 20	Deadline to Initiate Credit By Examination (Challenge)
March 1	Last Day to Request May and/or August 2015 Degree or Certificate
March 2	Last Day to Request Pass/No Pass Grading for Full-Semester Class
March 30–April 4	Spring Break
April 16	Last Day to Withdraw from Full- Semester Class and Receive a “W”
May 21	Commencement—Nevada County Campus
May 22	Commencement—Rocklin Campus
May 22	Semester Ends
May 25	Holiday (Memorial Day)

Summer 2015

June 8	INSTRUCTION BEGINS
July 3-4	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.



PHOTO BY DARYL STINCHFIELD

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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

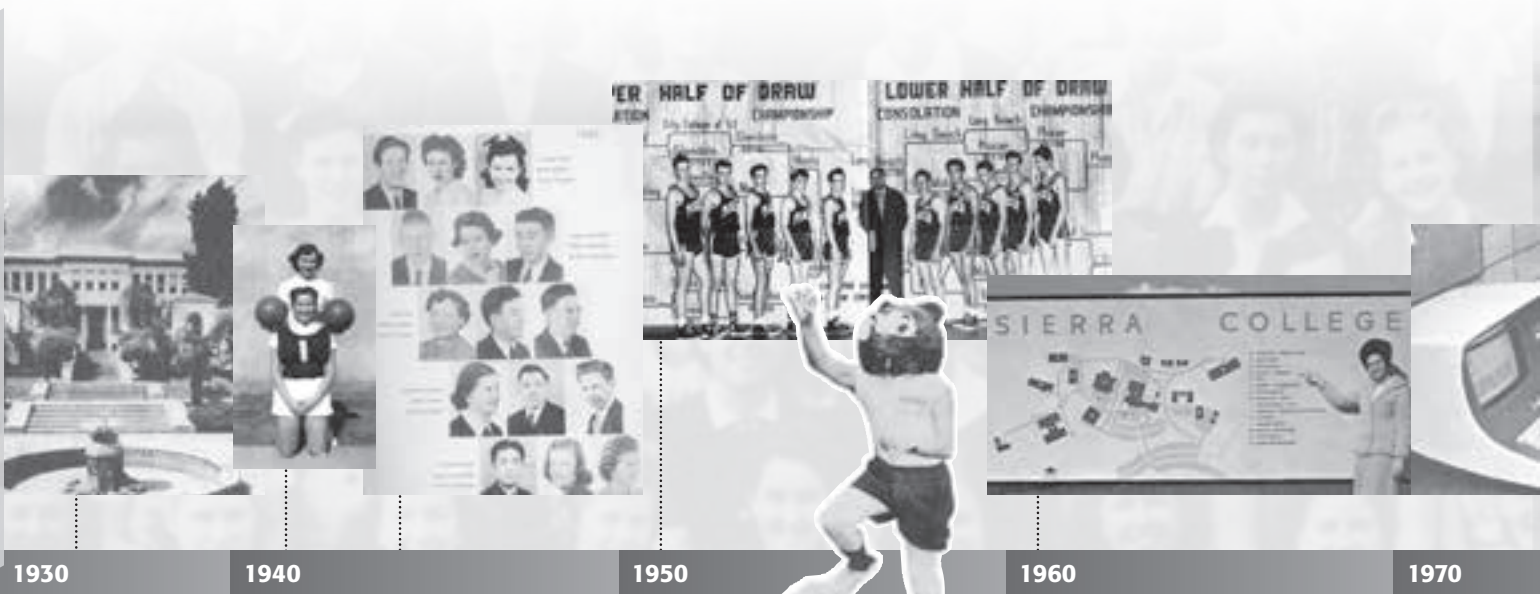
Harbor essentially ended enrollment by men as many went off to serve their country. Additionally, enrollment dropped significantly when Japanese-Americans were forced into internment camps. The student population dropped to 53 by 1943. The college eliminated the "Junior" from its name, becoming Placer 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.

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



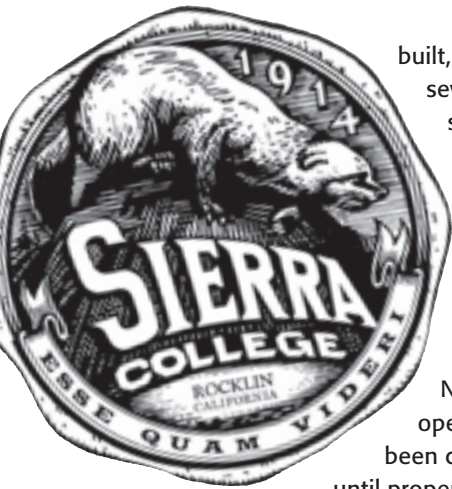
1930

1940

1950

1960

1970



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. Located on beautiful McIver Hill next to Interstate 80, the state-of-the-art "green" campus overlooks historic Truckee. In 2008, a new Mathematics and Technology Building was constructed on the Rocklin campus.

In 2010, as the result of the passage of the voter-approved Measure G Bond in November 2004, new buildings on the Nevada County Campus opened, including a computer lab and buildings for the arts and public safety.

Sierra College continues to be in the vanguard of innovative projects. The award-winning mechatronics training program is a national leader in cutting-edge electronics and robotics.


Beyond the classroom, Sierra College operates an outstanding Natural History Museum. Specializing in evolution

and paleontology, the museum is open to the public with its high-quality displays and hosts thousands of visitors annually, including attendance at the yearly Dinosaur Days event. The Sierra College Press functions as the only complete academic press operated by a community college in the United States. It often co-publishes with Heyday, an award-winning California publisher in Berkeley. The Associated Students of Sierra College (ASSC) partners with college-wide programs and student clubs to cosponsor numerous meaningful activities on campus that celebrate environment, human cultures, political awareness, gender and sexual equality, and many other important issues. Student athletes compete in numerous intercollegiate sports within the California Community College Athletic Association, the Big 8 Conference and the Northern California Football Association. Men and women student athletes have earned five different California State Championships for Sierra.

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. 



1980

1990

2000

2010

GENERAL INFORMATION



PHOTO BY DAVID BLANCHARD

Accreditation

Sierra College is accredited by the Accrediting Commission for Community and Junior Colleges (ACCJC), which operates under the Western Association of Schools and Colleges, and is authorized to operate under the U.S. Department of Education through the Higher Education Opportunity Act of 2008. ACCJC may be contacted at 10 Commercial Boulevard, Suite 204, Novato, CA 94949, (415) 506-0234, www.accjc.org.

Accreditation is a voluntary system of self regulation developed to evaluate overall educational quality and institutional effectiveness, providing assurance to the public that Sierra College meets the Standards; the education earned is of value to the student who earned it; and employers, trade or profession-related licensing agencies, and other colleges and universities can accept a student's credential as legitimate.

The college is engaged in addressing ACCJC's recommendations following its regularly scheduled visiting team site evaluation in fall 2013. After the site evaluation, the accreditation commission placed Sierra College on warning status with five specific recommendations to bring the college to ACCJC's standards by October 15, 2014. The College retains full accreditation pending an on-site reevaluation in fall 2014, and expects to be removed from warning by January 2015.

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: Certificates and degrees designed 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.sierra-college/training.com/cact.php.

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 not-for-credit, fee-based classes is published in spring, summer, and fall. Classes are offered in areas of business, career, computers, creative arts, food and wine, health, home and garden, and many other current interest subjects. Additionally, special activities such as sports camps, motorcycle training, 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. Hybrid courses, which are a combination of online and on-ground formats, are also offered. Television courses are broadcast live and distributed to various cable companies within the District, streamed live on the Internet, and available on iTunes U. 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 non-credit, 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/crisis counseling.

Support Services: Services include admissions and records, financial aid, scholarships, housing, tutoring, EOPS/CARE, CalWORKs, TRiO, health services and support for disabled students, former foster youth, international 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 present and discuss the concerns and interests of the constituent groups; to collaborate with the Superintendent/President by conveying the interests of the constituent groups on the strategic direction of the college; to share

in decision-making by advising the Superintendent/President in the development of policies and procedures; and to assist in disseminating information to 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 www.sierracollege.edu/about-us/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 293.

Sierra College Foundation

The Foundation seeks private funds to support Sierra College students and programs, assisting in the development of a trained workforce that promotes the economic development and viability of the community. The Foundation assists students in pursuit of higher education by offering scholarships, book vouchers, computers, and emergency grants.

Foundation accomplishments include: establishment of a million dollar scholarship endowment; establishment of a technology endowment; funding for the implementation of WiFi on all campuses; establishment of an emergency fund endowment to provide grants to students facing one-time emergencies; and funding and equipment for the Sierra College Veterans Resource Center. The Foundation offers refurbished computers to students with financial need; supports former foster youth attending Sierra College with care packs; and offers approximately \$300,000 in scholarships annually.

The Foundation is supported by financial contributions (cash, stocks, planned gifts, memorials, bequests, real estate, trusts) and activities (wine and food tastings, auctions, golf tournaments, dinners, the auto fair and other fund-raising events). For additional information or to contribute, please visit the website at www.sierracollege.edu/foundation, call the Foundation Office at (916) 660-7020, 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 and 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 at a campus Admissions and Records Office. Additional admission information in Spanish and Russian is also available online. Students are encouraged to submit official high school and college transcripts to an Admissions and Records Office.

Each semester the college offers registration opportunities to those who file an application for admission and complete the "Steps to Success." 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 an Admissions and Records Office for further information.

Nonresident students who wish to request a residency status change must submit a residency reclassification petition by the end of the semester in question. Residency documents should be submitted to a campus Admissions and 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 CBT (Computer Based Test), 450 PBT (Paper Based Test), or 45 iBT (Internet Based Test) 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 \$17,000.00 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.

International Student 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 Program

Sierra College provides special part-time admission to students who:

- have completed the tenth grade;
- are at least 15 years of age;
- have a GPA of 3.0 or above; and
- assessed into the appropriate transfer level courses.

Students must attend a high school which has a current Academic Enrichment Compliance form on file in the Admissions Office. Home schooled students or those attending a charter school must have an affidavit indicating they are legally home schooled or attending a charter school.

Students must submit a Sierra College application for admission, an Academic Enrichment Permission form, and an official high school transcript 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. Enrollment is limited to a maximum of 7 units per semester; specific courses in which students may not enroll are published online on the Academic Enrichment Restricted Course List. Students admitted under these provisions are subject to all college rules and regulations and are not eligible for student employment. Contact a campus Admissions and Records Office for more information. ■



PHOTO BY DARYL STINCHFIELD

STEPS TO SUCCESS



PHOTO BY DARYL STINCHFIELD

The Student Success Act of 2012 recognizes that student success is the responsibility of the institution and student, supported by student and instructional services. The Student Success and Support Program increases student access and success through the provision of core services, including orientation, assessment and placement, counseling, advising, and other education planning services.

Getting Started at Sierra College

1. Apply.
2. Activate mySierra.
3. Complete orientation.
4. Complete assessment-placement.
5. Meet with a Counselor to develop a Student Educational Plan (SEP).
6. Register for classes.
7. Pay fees.

These steps, most of which may be completed online, provide a process that brings the College and the students together in a partnership agreement designed to help students develop and achieve their educational goals.

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

Required Steps to Register

Students who are new to Sierra College and returning students who have been away from Sierra College for three years or more must complete orientation, assessment-placement, and new student group counseling prior to registering for classes.

Orientation: Orientation to Sierra College is delivered online through mySierra (the password protected portal that gives users access to secured information on the Sierra College intranet). Orientation provides information about programs, student support services, academic expectations and registration procedures.

Assessment-Placement: As part of the process to enhance student success, Sierra College requires assessment testing for reading, mathematics, English and/or English as a Second Language. Course placement services include evaluation of the following documents:

- high school and other college transcripts;
- Early Assessment Program (EAP) results;
- ACT, AP, ELM, IB, and SAT results; and
- other two-year regionally accredited college assessment reports.

Counseling: Sierra College provides new student group counseling sessions in which students work with counselors to develop Student Educational Plans (SEP). Counselors may also refer students to support services and answer specific questions and concerns.

Exemptions: Some students are exempt from orientation, assessment-placement, and counseling requirements. Nevertheless, students are encouraged to avail themselves of these services. Students are exempt if they meet any of the following criteria:

- Hold an associate degree or higher;
- Apply with an educational goal of "educational development," "maintain certificate or license," or "advance in current job/career."

Challenges or Appeals: A student may file a challenge or complaint if the student believes that the Student Success Act regulations are not being met. All challenges, appeals, complaints, or requests for information should be directed to the Counseling Office in the Winstead Center on the Rocklin campus.

Enrollment Priorities

Enrollment priority is provided for students enrolling at Sierra College for the purpose of degree or certificate attainment, transfer to a four-year college or university, or career advancement. Students must:

- have completed orientation, assessment, counseling, and developed a student education plan;
- be in good academic standing, first semester academic or progress probation, or be making satisfactory semester progress with a grade point average of 2.0 or higher;

- have completed less than 100 degree-applicable units at Sierra College (excludes all courses numbered 500 and above, such as non-degree applicable English as a Second Language courses, basic skills courses, or special courses designed to address the educational limitations of students with disabilities).

Registration priority shall be provided to students in order of priority listed below (within each category, priority is assigned by number of units completed at Sierra College).

Category 1:

- Foster youth or former foster youth up to 24 years of age.
- Veterans or members of the Armed Forces of the United States who are California residents and received honorable, general, or other than honorable discharge; and members or former members of the State Military Reserve within 15 years of leaving state or federal active duty.
- Students eligible for and receiving services through Disabled Students Programs and Services (DSPS).
- Students eligible for and receiving services through Extended Opportunity Programs and Services (EOPS).
- CalWORKS students.

Category 2:

- TRiO students.
- International students.
- Intercollegiate student athletes.
- Continuing students.
- Returning students.
- Ghidotti Early College High School students.
- New students.

Category 3:

- Students who have lost enrollment priority.
- All other students, including Academic Enrichment students.

Enrollment priority for any student (other than foster youth or former foster youth) shall be lost at the first registration opportunity for either of the following reasons:

1. The student is placed on academic and/or progress probation for two consecutive semesters and is subject to dismissal. (An automatic appeal will be granted for any student making satisfactory semester progress by earning a semester GPA of 2.0 or higher.)
2. The student has earned 100 or more degree-applicable units at Sierra College.

Students who are placed on academic or progress probation, or who have earned 75% or more of the 100 unit limit will be notified of the potential for loss of enrollment priority.

Enrollment Priority Appeals

Students may appeal the loss of priority enrollment status due to extenuating circumstances, or where a student with a disability applied for, but did not receive reasonable accommodation in a timely manner. Contact an Admissions and Records Office for further information.

Class Registration

Students may 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 time to ensure the best possible course selection. and registration.

Waitlists

20-space waitlists are established for every class offered by Sierra College. When a class reaches maximum enrollment, eligible students may add themselves to the waitlist. When a space in the class becomes available, the first student on the waitlist will receive notification through mySierra email. The student will then have 48 hours to register. If the student does not register, they will be removed from the waitlist and the next student on the list will be sent an email notification. This process will continue until all available seats are filled. It is recommended that students regularly monitor their email and waitlist status.

Students remaining on a waitlist after the class begins must attend the class. Faculty adding students on the first and/or second day of class will give priority to students in waitlist order. Students failing to appear for the first and second class meetings will lose their place on the waitlist.

For more information, read the waitlist FAQs on the website or contact an Admissions and Records Office.

Add/Drop Period

Registration is available during the first two weeks of the fall and spring semesters. Permission to add must be obtained from the class professor. The professor supplies each student with a 4-digit add code that allows the student to add the course through mySierra web registration or in person at a campus Admissions and Records Office. All fees must be paid at the time of registration. Refer to the website for registration details and deadline dates and times.

Note: Students must complete the "Steps to Success" prior to registering for classes. Under no circumstances will class registration be processed after the withdrawal deadline.

Payment Information

Fees and tuition are due at the time of registration. Students are given a ten calendar day grace period, after which they will be dropped from classes for nonpayment. Students registering less than ten days before the beginning of the semester must pay all fees prior to the first day of the term.

Fees and Holds

Students owing fees after the start of a semester will have holds placed on their records. Students with holds for unpaid fees, fines, etc., must clear the holds before any future 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.

Enrollment Fee

Sierra College charges a State-mandated enrollment fee of \$46.00 per unit each semester. Fees, especially those established by the California State Legislature, are subject to change.

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

- \$19.00 per semester for students enrolled in fall or spring semester class(es);
 - \$16.00 for students enrolled in summer session class(es)
- Exemptions are given for:
- Recipients of Board of Governor's fee waiver Type "A";
 - 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 exclusively auditing classes;
 - Students who are dependent upon prayer for healing (contact an Admissions and Records Office for the exemption form prior to registration).

Instructional Materials Fee

Students may be required to provide instructional materials for a credit or noncredit course, or purchase such materials from Sierra College. 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 2014-2015 catalog year is \$193.00 per unit. Nonresident tuition is in addition to the enrollment fee.

In accordance with Education Code section 68130.5, all students other than nonimmigrant aliens under 8 U.S.C. 1101(a)(15), are eligible for exemption from nonresident tuition if the following requirements are met:

- Attended a California high school for at least three years; and
- Graduated from a California high school, earned a California GED, or passed the California high school proficiency examination.

Students without lawful immigration status

(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 and Records Office for more information and to complete a questionnaire form to verify eligibility.

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 \$6.00 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 and 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 Temporary Assistance for Needy Families program, the Supplemental Income/State Supplementary 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 through mySierra. 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:

Standard Permit—Rocklin and Nevada County	\$50.00
Standard Permit—Tahoe-Truckee	30.00
Standard Permit—Financial Aid Eligible.	25.00
Carpool Permit.	35.00
Motorcycle Permit	13.00

Summer Session:

Standard Permit—All Campuses.	\$25.00
Standard Permit—Financial Aid Eligible.	25.00
Carpool Permit.	25.00
Motorcycle Permit	5.00

Daily permits are available for \$3.00 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.

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 and Records Office. 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 through mySierra. 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 Waiver Type A; 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)	\$3,600.00
Books and Supplies.....	400.00
Transportation (by car)	700.00
Personal (clothes, recreation, etc.)	900.00

**These are estimates and are subject to change. Personal expenses vary with individual needs and tastes.*

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 and 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.

Refunds are automatically processed six to eight weeks after the semester begins. Disbursement options include direct deposit to a bank account, loaded on a Wolverine




PHOTO BY DAVID BLANCHARD

One Card, or a paper check via U.S. mail. Please visit www.sierracollege.edu/onecard for more information.

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 and Security Services Office along with a completed parking refund request form. Allow six weeks for refund.

American Opportunity and Lifetime Learning Education 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



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Advanced Placement Examination

Sierra College accepts Advanced Placement (AP) examinations with scores of three or higher. Currently enrolled students may be awarded up to six units of credit per examination. Credit is awarded for a Sierra College course or courses; as general education credit; or as elective credit.

Students automatically receive credit for AP examinations if official College Board Advanced Placement scores are sent to the College (Sierra College Code=4697). Grades are not assigned and the credit is not used in calculating grade point average. Students are notified when credit is granted. If a student does not want credit, a written request asking that credit be removed from the transcript must be submitted to an Admissions and Records office.

Duplicate credit will not be awarded for AP examinations and college courses. AP credit will not be used to alleviate a substandard grade. If a student subsequently duplicates an AP examination with a college course, credit for the examination will be removed.

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.

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 three- and four-year programs leading to a commission in the United States Air Force. All coursework is completed on the CSUS campus. Qualified students may compete for a very limited number of nationwide scholarships. 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 Recruiting Flight Commander 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 and 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-Breadth 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 to a CSU campus, students must take nine units of upper-division general education courses.

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. Students transferring to a CSU campus may choose to use the CSU GE-Breadth pattern in lieu of IGETC, as all of the IGETC coursework is embedded in the CSU GE-Breadth pattern.

Students may use certain Advanced Placement (AP) examinations with scores of 3 or higher to meet areas of CSU GE-Breadth and IGETC. Certain International Baccalaureate (IB) examinations with scores of 4 or higher may be used toward CSU GE-Breadth and scores of 5 or higher to meet areas of IGETC.

The CSU GE-Breadth and IGETC courses are approved annually for the academic year. If a course is taken before it

is approved or after it is removed, it cannot be used to satisfy CSU or UC transfer general education. The CSU GE-Breadth and IGETC course lists for all California Community Colleges are available at www.assist.org.

Students must request that a General Education Certification or an IGETC Certification be sent to the transfer institution along with the final Sierra College transcript.

Students pursuing majors with extensive lower-division unit requirements, such as Engineering, are advised to focus on completing the pre-major requirements while meeting minimum admission requirements. 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, visit www.sierracollege.edu/student-services/specialized-programs/honors.

International Baccalaureate Examination

Sierra College accepts International Baccalaureate (IB) Higher Level examinations with scores of four or higher. Currently enrolled students may be awarded three units of credit per examination upon submission of official results. Credit is awarded as general education credit.

Sierra College students automatically receive credit for IB examinations if official scores are sent to the College. Grades are not assigned and the credit is not used in calculating grade point average. Students are notified when credit is granted. If a student does not want credit, a written request asking that credit be removed from the transcript must be submitted to an Admissions and Records office.

Duplicate credit will not be awarded for IB examinations and college courses. IB credit will not be used to alleviate a substandard grade. If a student subsequently duplicates an IB examination with a college course, credit for the examination will be removed.

Transfer students are cautioned that, regardless of Sierra College policy, some institutions determine IB credit based on their own local policies and may recalculate credit. For further information please consult a counselor.

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:



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- 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/learning skills 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 that 5 units of military training credit be applied to the Health Education/Physical Education associate degree requirement. Credit has no bearing on the student's GPA and may not transfer to a four-year university. To request credit, students must submit a copy of their DD-214 to an Admissions and Records Office or the Veterans Resource Center. Students must submit an application for admission before military credit may be awarded.

Veterans receiving VA educational benefits through the Sierra College Veterans Resource Center 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 all lower-division degree-applicable credit courses. 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 and 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 the Career and Transfer Connections Office for further information. ■



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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 and 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 student schedule/bill, by checking mySierra, or by verifying with an Admissions and Records Office. Instructors shall clear their rolls of "no show" and inactive students not later than the end of the last calendar 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 and to verify that they are no longer enrolled.

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. Students are limited to receiving a "W" and/or a substandard grade ("D", "F", "NC", "NP") no more than three times for the same course. After the third such enrollment attempt, students will be blocked from additional enrollment. (Military withdrawals are not included in this limitation.)

Enrollment Status

Students are responsible for their enrollment status at all times. Credit is not given for courses in which a student is not officially enrolled. For purposes of student enrollment verifications, a full-time student is 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 and Multiple Course Enrollment

Students may not enroll in credit courses which meet at the same or overlapping time. Also, 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



PHOTO BY DARYL STINGHEBEL

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 and 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.

Academic Standing

President's Honor Roll: Full-time students earning a grade point average of 3.5 or better are included on the President's Honor Roll each semester. To qualify, 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 count toward this requirement.

Dean's List: Full-time students earning a grade point average of 3.0 to 3.499 are placed on the Dean's List. To qualify, 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 count toward this requirement.

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 2.0 in all units attempted in each of two consecutive semesters*, 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 each of two consecutive semesters* attended. Students making satisfactory semester progress by earning a semester grade point average of 2.0 or higher are not subject to dismissal.

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 academic record.

*For the purpose of dismissal, semesters shall be considered consecutive on the basis of the student's enrollment after the drop date, as long as the break in enrollment does not exceed one full semester.

Dismissal Appeal: Students may request exceptions to

the standards of dismissal through a written appeal to the Dismissal Committee within seven calendar days of the dismissal notice being sent. The appeal must indicate a clear statement of the grounds on which continued enrollment should be granted and provide supporting evidence. The decision of the Dismissal Committee is final and will be communicated to the student in writing by the Dean of Student Services prior to the start of the subsequent semester.

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 two times 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.

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. Auditors must be eligible for admission as regularly enrolled students. Please note priority is always given first to students who register for credit; auditing is on a space available basis, and auditors are not permitted to change enrollment in the course to receive credit. Courses that include field trips are not eligible for audit.

A \$15 per unit non-refundable audit fee will be charged unless enrolled in 10 or more units and requesting to audit 3 units or less. Students auditing a class without simultaneous enrollment in any other class are not eligible for tutoring services or campus health center services. Contact an Admissions and 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 contact an Admissions and Records Office during the first two weeks of the semester or the first three days of summer session.

Grade Changes

Course instructors determine the grades to be awarded to students, which 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 there may have been gross misconduct by the original instructor. Students 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 an instructional dean appointed by the Vice President of Instruction. 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 an 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 the control of the student that prevented them from submitting the grade change petition within one year of the course completion date.
- An Admissions and Records Office shall validate the required data and forward the petition to the Academic Standards Committee for consideration.
- Academic Senate Committee approved grade change petitions will be processed by an Admissions and Records Office.

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, MW, 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 and dean.



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- The student must attach sufficient documentation proving an accident, illness, or extenuating circumstances beyond the control of the student.
- A campus Admissions and Records Office will validate the required data and confirm the satisfaction of the conditions specified by Title 5 Section 55025.
- The petition will be forwarded to the Academic Standards Committee for consideration.
- Academic Senate Committee approved grade change petitions will be processed by a Admissions and Records Office.

Change of Grade from Evaluative or Non-Evaluative Symbol to a Drop prior to Census Date

- The student shall file a No Show Petition with a campus Admissions and Records Office indicating no class attendance within the add/drop period.
- The petition must be supported and signed by the appropriate instructor and dean.
- Approved petitions will be processed by a Admissions and Records Office.

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 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 shall not be counted in progress probation, dismissal calculations, or in calculating the permitted number of withdrawals.

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 and 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 points.

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 and 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.

Prerequisite Clearance Procedures

Students who have met a prerequisite in high school or at another college may submit transcripts for review and prerequisite clearance. All documents, including the Prerequisite Clearance form (available online), should be submitted to the Assessment Center, emailed to assessment@sierracollege.edu, faxed to the Rocklin campus at (916) 630-4513, or faxed to the Nevada County campus at (530) 274-5307. Results are available within 3-5 business days after submission and are accessible online via mySierra.

Prerequisite/Corequisite Appeal Procedures

Any prerequisite or corequisite may be appealed 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.

Prerequisite/Corequisite Appeal forms may be obtained at the following locations:

- Assessment-Placement Center
- Counseling Centers
- Academic Division Offices.

The Prerequisite/Corequisite Appeal form must be submitted to the appropriate academic division office for the prerequisite/corequisite being appealed. The appeal will be

reviewed within 5 working days, and the results will be accessible online via mySierra. If approved, the student will be permitted to enroll in the class.

Remedial Coursework Limit

Student need for remedial coursework is determined using appropriate assessment instruments, methods, or procedures. 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. 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.

Student Course Repetition

Course repetition occurs when a student, who has previously received an evaluative symbol in a credit course, re-enrolls in that course and receives an evaluative symbol.

- Students may not repeat a course if a grade of "C" or better was earned, unless the course is identified as repeatable in the course description. An exception may be granted for extenuating circumstances or lapse of time.
- Students may repeat a course determined to be legally mandated regardless of whether substandard academic work has been previously recorded. Such courses may be repeated for credit any number of times. Students may re-enroll in courses that the District has determined to be required by statute or regulation as a condition of paid or volunteer employment. Students may be required to provide evidence that they are required to re-enroll as a condition of their paid or volunteer employment. The grade received by the student each time will be included in calculations of the student's grade point average.
- Students may petition to re-enroll in a course as a result of a significant change in industry or licensure standards as necessary for the student's employment or licensure.
- Students with disabilities may enroll multiple times in courses designated as "special classes" when an individualized determination verifies that such repetition is required as a disability-related accommodation.
- Students are allowed to enroll more than once in an occupational work experience course for a total of no more than 16 semester units. 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.
- A non-repeatable course may be attempted up to a maximum of three times per credit course if a substandard

grade ("D," "F," "NC," "NP") or a withdrawal ("W") was earned. Enrollment attempts include any combination of withdrawals and substandard grades. (Note: military withdrawals are not included.) An exception may be granted for extenuating circumstances.

- When course repetition occurs, the last grade ("A," "B," "C," "D," "F") and credit earned will be included in the computation of the grade point average.
- Courses that are repeated are recorded on the student's permanent academic record using the appropriate symbol for repetition.
- Annotating the permanent academic record is done in such a manner that all work remains legible, insuring a true and complete academic history.
- Nothing will conflict with Education Code Section 76224 pertaining to the finality of grades assigned by instructors, or with Title 5 or district procedures.
- 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 attempt (whether substandard grade, passing grade, or withdrawal) 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 and 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 active participatory 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.

Courses Designated as Repeatable

Under special circumstances, courses may be designated as repeatable. When a course is repeated, the grade received each time shall be included for purposes of calculating the student's grade point average. The following types of courses may be designated as repeatable:

- Courses for which repetition is required to meet the major requirements of CSU or UC for completion of a bachelor's degree;
- Intercollegiate athletics courses; and
- Intercollegiate academic or vocational competition courses.

Students are allowed to repeat these courses up to three times for a total of four enrollments. This enrollment limitation applies even if the student receives a substandard grade or "W" during one or more of the enrollments in such a course, or the student petitions to re-enroll due to extenuating circumstances.

Limitations on Active Participatory Courses

Courses formerly designated as repeatable "activity" courses are now defined as non-repeatable "active participatory courses." These courses have individual study or group assignments as the basic means by which learning objectives are obtained. Active participatory courses in physical education, visual arts, and performing arts that are related in content include groups of distinct courses with similar primary educational activities that have been separated into skill levels or variations and are separated with different student learning objectives or outcomes for each level or variation.

Students are limited to a maximum of four enrollments within each of these course groupings, also known as course families, regardless of the number of courses included in each family. This limitation applies retroactively to all prior enrollments in courses now included in a family; applies even if students receive substandard grades or withdrawals for one or more of the enrollments; and applies to re-enrollments due to extenuating circumstances.

Applied Art and Design Families

AAD Graphic Design

- AAD 60 Graphic Design: Principles and Process
- AAD 61 Graphic Design II: Digital Design and Production
- AAD 62 Graphic Computer Illustration
- AAD 70 Introduction to Digital Art and Design

AAD Illustration and Drawing

- AAD 44 Sketching for Design
- AAD 55 Illustration (also known as ART 55)

AAD Publication Design

- AAD 52 Publication Design I
- AAD 53 Publication Design II
- AAD 54 Typography

AAD Video

- AAD 79 Introduction to Video Production
- AAD 80 Introduction to Video Editing

AAD Web Design

- AAD 85 Introduction to Web Design
- AAD 86 Intermediate Web Design
- AAD 90 Interactivity and Animation for the Web

Art Families

ART Alternate Materials

- ART 32 Introduction to Fiber Arts
- ART 34 Collage and Assemblage

ART Ceramics

- ART 17 Ceramic Sculpture/Handbuilding
- ART 18A Ceramics I
- ART 18B Ceramics II
- ART 20 Raku Ceramics

ART Drawing

- ART 4A Drawing I
- ART 4B Drawing II
- ART 5A Figure Drawing I
- ART 5B Figure Drawing II
- ART 52 Portrait Drawing and Painting

ART Metal

- ART 22 Creative Design in Metal
- ART 24 Advanced Art Metal Design
- ART 33 Art Metal Casting
- ART 41 Introduction to Jewelry and Metalsmithing

ART Painting

- ART 7A Oil Painting I
- ART 7B Oil Painting II
- ART 8A Watercolor Painting I
- ART 8B Watercolor Painting II
- ART 9A Acrylic Painting I
- ART 9B Acrylic Painting II

ART Printmaking

- ART 40A Printmaking I
- ART 40B Printmaking II

ART Sculpture

- ART 12A Sculpture I
- ART 12B Sculpture II
- ART 19 Figure Sculpture

ART Visual Art Fundamentals

- ART 2 Two-Dimensional Design Foundations
- ART 3 Three-Dimensional Design Foundations
- ART 6C Color Theory

Drama Families

DRMA Costuming

- DRMA 16B Costume Construction
- DRMA 17 Makeup

DRMA Performance Cast

DRMA 23A Rehearsal and Performance—Cast I
DRMA 23B Rehearsal and Performance—Cast II
DRMA 23C Rehearsal and Performance—Cast III
DRMA 23D Rehearsal and Performance—Cast IV

DRMA Performance Crew

DRMA 22A Rehearsal and Performance—Crew I
DRMA 22B Rehearsal and Performance—Crew II
DRMA 22C Rehearsal and Performance—Crew III
DRMA 22D Rehearsal and Performance—Crew IV

DRMA Stagecraft

DRMA 14 Stagecraft
DRMA 19A Stage Properties
DRMA 19B Scenic Painting

Music Families

MUS Ear Training

MUS 3A Ear Training I
MUS 3B Ear Training II
MUS 4A Advanced Ear Training I
MUS 4B Advanced Ear Training II

MUS Guitar

MUS 57A Beginning Guitar
MUS 57B Beginning Guitar
MUS 58A Intermediate Guitar
MUS 58B Intermediate Guitar

MUS Music Production

MUS 14 Introduction to Commercial Music Production
MUS 15 Audio Recording

MUS Piano

MUS 40A Beginning Piano I
MUS 40B Beginning Piano II
MUS 40C Intermediate Piano I
MUS 40D Intermediate Piano II

MUS Voice

MUS 39A Beginning Voice
MUS 39B Intermediate Voice
MUS 39C Advanced Voice I
MUS 39D Advanced Voice II

Physical Education Families

PHED Adaptive

PHED 71 Adaptive Physical Education
PHED 72 Individualized Exercises
PHED 73 Adaptive Aquatics
PHED 74 Adaptive Aerobic Fitness
PHED 75 Adaptive Walk/Jog

PHED Aerobic Fitness—Resistance

PHED 6 Physical Fitness
PHED 7 Aerobic Fitness
PHED 8 Aquacise
PHED 9 Step Aerobic Training
PHED 13 Cardio Kickboxing
PHED 19 Mat Pilates

PHED Aerobic Training—Weights

PHED 3A Basic Aerobic Training with Fitness Equipment
PHED 3B Adv. Aerobic Circuit Training with
Fitness Equipment
PHED 17 Body Sculpting

PHED Ballet

PHED 56A Ballet I
PHED 56B Ballet II

PHED Basketball

PHED 23 Recreational Basketball
PHED 93 Sports Activities

PHED Country Dance

PHED 51B Square Dance
PHED 51C Line Dance

PHED Self Defense

PHED 63 Personal Safety
PHED 66 Combative Self Defense
PHED 69 Peaceful Self Defense
PHED 80 Multi Self Defense

PHED Soccer

PHED 27A Soccer Level I
PHED 27B Soccer Level II

PHED Swimming

PHED 36 Fundamental Swimming
PHED 39 Swimming Conditioning

PHED Water Safety

PHED 33 Recert. for Lifeguard Training/Prof. Rescue CPR
PHED 35 Lifeguard Training
PHED 42 Water Safety Instructor/Instructor
Candidate Training

PHED Weight Training

PHED 5A Weight Training
PHED 5B Strength Training—Circuit and Power
PHED 87 Cross Training

PHED Wellness

PHED 22 Fitness and Weight Management Boot Camp
PHED 68 Introduction to Meditation

Photography Families

PHOT Alternative Processes

PHOT 90G Pinhole Photography Workshop
PHOT 92 Alternative Processes

PHOT Black and White Photography

PHOT 60A Elementary Photography
PHOT 60B Intermediate Photography
PHOT 90A Introduction to the Zone System

PHOT Commercial Photography

PHOT 30 Photographing Works of Art
(also known as AAD 30)
PHOT PHOT 70A Advanced Photography
PHOT 70B Advanced Photography
PHOT 90P Workshop: Portraiture

PHOT Digital Imaging

PHOT 75 Intro. to Digital Imaging
(also known as AAD 75)

PHOT 76 Adv. Projects-Digital Imaging
(also known as AAD 76)

PHOT Digital Photography

PHOT 78 Digital Photography

PHOT 80 Color Photography

PHOT Documentary Photography

PHOT 65 Documentary Photography

PHOT 85 Photojournalism

PHOT 90M Autobiographical Photography

PHOT Field Workshops: Documentary

PHOT 90H Documentary Field Workshop

PHOT 90J Photojournalism Field Workshop

PHOT Field Workshops: Outdoor

PHOT 90B Field Workshop: Cityscape

PHOT 90I Night Photography Field Workshop

PHOT 90L Field Workshop: Landscape

PHOT 90N Field Workshop: Color Nature Photography

PHOT 90T Travel Photography Field Workshop

Student Records

Student records are maintained by campus Admissions and Records Offices. Students are responsible for regularly checking their mySierra account to ensure receiving registration and financial aid information.

Family Educational Rights and Privacy Act (FERPA)

Sierra College maintains student records and privacy in accordance with the Family Educational Rights and Privacy Act (FERPA) of 1974, as amended. FERPA sets forth requirements regarding the privacy of student records and protects students' rights to inspect and review their education records, to request to amend their education records, and to limit disclosure of personally identifiable information contained in education records.

Student education records are defined as records, files, documents and other materials that contain information directly related to a student, and are maintained by the institution or by a party acting for the institution. Education records are NOT: sole possession records, law enforcement unit records, employment records, medical records, or post-attendance records.

Student education records that are personally identifiable will not be released to a third party without the student's written consent unless one of the following situations applies:

- To college faculty, staff and administrators with a legitimate educational interest in the information.
- In response to a request for directory information.
- To Federal, State and local education authorities involving an audit, evaluation or compliance with education programs.
- Agents acting on behalf of the college (e.g., National Student Loan Clearinghouse).

- In connection with processing financial aid.
- Accrediting institutions.
- To comply with a judicial order or subpoena.
- In connection with a health or safety emergency if the information will assist in resolving the emergency.

Transcripts

Students may request official academic transcripts through the following methods:

- Online at www.sierracollege.edu/admissions. Standard service requires five to seven business days to process upon receipt of a signed authorization form. The first two transcripts ever requested are free of charge; additional transcripts may be ordered at a cost of \$7.00 per transcript. Domestic and international Federal Express service is available at a cost of \$18.00-\$41.00 per transcript.
- In-person, on-demand transcripts are available immediately at the Rocklin campus for \$20.00 per transcript.
- Mail-in transcript requests are processed for a 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 and Records Office, (916) 660-7340 or (530) 274-5302.

Unofficial transcripts are available through mySierra, or free of charge at an Admissions and Records Office.

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 30C, ESL 30W, or equivalent.
4. Meet the reading proficiency requirement by assessment or satisfactory completion of ENGL 1B, 1C, 11, 50, N; ESL 30C, 30R; 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.

Students placing into higher-level courses may choose to enroll in Academic Foundations courses in order to master concepts and achieve greater academic success across the curriculum.

For more information, see "Remedial Coursework Limit" in this catalog and the Sierra College website.

Courses in the program include:

- CIS 30basic computer skills
- ENGL 501, A, Nwriting
- ENGL 560, 570, 50reading
- ESL 500, 510, 520,writing, grammar, 530, 540.reading, listening
- LRDS 610learning disabilities assessment
- LIBS 10A, 10Bfinding information
- MATH 581arithmetic
- MATH 582pre-algebra
- MATH A.basic algebra
- PDEV 1college success
- PDEV 6career and life planning
- PDEV 8introduction to college

Assessment-Placement Center

As part of the process to enhance student success, the Sierra College Assessment-Placement Center requires assessment testing for English, Reading, Mathematics, and English as a Second Language (ESL). Additionally, students wishing to register in Chemistry 1A must take the Chemistry Diagnostic Test.

Sierra College offers an online Placement Tool that helps to determine if high school students can be placed in English, Reading and Mathematics courses using high school transcripts. The Placement Tool is available on the Assessment website.

Course placement services include evaluation of the following documents:

- high school and other college transcripts;
- Early Assessment Program (EAP) results;
- ACT, AP, ELM, EPT, IB, and SAT results; and
- other two-year regionally-accredited college assessment reports.

All documents must be submitted at least five days prior to the planned registration date and may be submitted in



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person to the Assessment-Placement Center or by one of the following methods:

Email: assessment@sierracollege.edu
Rocklin Campus Fax: (916) 630-4513
Nevada County Campus Fax: (530) 274-5307

See "Prerequisites, Corequisites and Advisories" in this catalog for further information regarding clearance and appeal procedures.

All students must complete their initial assessments or placements before registering for classes. After the application for admission has been processed and the student identification number (ID) issued, students may schedule an assessment appointment. Appointments may be made online via mySierra or by calling one of the following numbers:

Rocklin Campus (916) 660-7433
Nevada County Campus (530) 274-5303
Tahoe-Truckee Campus (530) 550-2225

Students arriving for the appointment at the Assessment-Placement Center must present a valid photo identification, such as a driver's license or high school ID. Results are available immediately after testing and may be viewed online via mySierra under the link, 'Course Placement and Eligibility.'

It is the responsibility of the student to meet course prerequisites and corequisites, which are published in the schedule of classes and in this catalog.

Sierra College Bookstores

The Sierra College Bookstores are committed to providing the highest quality service to meet the needs of students, faculty, staff and the community of Sierra College.

Textbooks for classes at all campuses may be ordered

online at <http://sierra.bncollege.com>. Sierra College merchandise, including t-shirts, sweatshirts, and Wolverine gift items may also be ordered online. Refund/return policy information is available at any location.

Selling Books: Books may be sold back at any time for up to 50% of the original selling price. The best time to sell is at the end of each semester when the bookstore purchases textbooks for the upcoming term. A Sierra College Student Body ID is required. No receipt is necessary and it doesn't matter where the books were purchased. Instructor and international editions cannot be sold.

Rocklin Campus Bookstore hours and information: Monday–Thursday, 7:30 a.m.–6:30 p.m., Friday, 7:30 a.m.–12:00 p.m. Extended hours—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 and information: Monday–Thursday, 9:00 a.m.–1:00 p.m., 2:00 p.m.–6:30 p.m. Extended hours—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 Tahoe-Truckee classes are available at the Rocklin Campus Bookstore or can be ordered online. Orders for Tahoe-Truckee students must be shipped to the customer street address (no P.O. Boxes) or picked up at the Rocklin campus. For further information call (916) 660-8200.

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 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, housed within Career and Transfer Connections in the Winstead Center (Room L-107) at the Rocklin Campus, 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, email careerconnections@sierracollege.edu, 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 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 Cirby Elementary School in Roseville and one at Rock Creek Elementary School in Auburn. State Preschool sites operate a three-hour morning and a three-hour afternoon session, with full-day options at the Cirby and Rock Creek sites.

During the school year, the Nevada County Campus Child Development Center operates a Head Start/State Preschool program for ages 3 through 5. In addition, a full year, full-day Early Head Start Toddler program enrolls children, ages 18 - 36 months.

For hours of operation and further information, contact the individual sites:

Sierra College Child Development Center,
Rocklin Campus State Preschool, (916) 660-8240
Nevada County Campus Child Development Center,
Grass Valley, (530) 274-5350
Cirby State Preschool, Roseville, (916) 783-0776
Rock Creek State Preschool, Auburn, (530) 823-0380

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, and transportation. Contact the Rocklin EOPS office at (916) 660-7366, or the Nevada County EOPS office at (530) 274-5306 for further information and application assistance.

Counseling Services

Sierra College counselors provide academic advising, career, transfer, personal, and crisis counseling to 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 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

Online counseling services are available through the online counseling center on the website.

Disabled Students Programs and 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 psychologically, physically 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 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 appealing to students with busy schedules who have a difficult time coming to campus on a regular basis. Online 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 throughout 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 Internet, and archived for two weeks on our iTunes U site. Students are able to interact with their professor during the live class via telephone. Hybrid courses, which are a combination of online and on-ground formats, are also offered.

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://www.sierracollege.edu/distancelearning>.

Extended Opportunity Programs and Services (EOPS)

EOPS is a student success program that provides access to a college education and assistance with reaching an

educational/career goal for those individuals affected by language, economic and social disadvantages. Eligible students may receive academic, career and personal counseling, specialized orientation, free tutoring, financial aid assistance, priority registration, 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. Prescriptive/comprehensive Student Educational Plans (SEP) are developed for each EOPS student as part of the specialized counseling services provided by the program. Students must meet certain income and educationally disadvantaged criteria to receive services. Contact the Rocklin EOPS office at (916) 660-7366 or the Nevada County EOPS office at (530) 274-5306 for further information and application assistance.

Health Services

Sierra College Health Centers offer a wide variety of services. 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, injured or need family planning



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- Referrals to on-campus and community resources
- Laboratory testing
- Mental health counseling
- Immunizations
- Physical examinations.

Students must be registered in and actively attending classes to be eligible for services at a health center.

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 hall community living. North Hall is a two-story co-ed residence hall. A total of 121 students live in double occupancy rooms; two double rooms share a bathroom. Facilities that are available for residents include a large recreation room, kitchenette and laundry room. Basic utilities are included 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 information may be obtained by calling the Housing Office at (916) 660-7389 or online at www.sierracollege.edu/housing. The Housing Office is located in the Z Building.

Student On-Campus Jobs

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 students 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
- Perceptual Development Program
- Test taking facilitation
- Compensatory learning strategies
- 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 EBSCOhost, JSTOR and other full-text electronic products, including a growing eBook collection.

The open-stack book collection contains more than 113,000 volumes, and print subscriptions to over 140 periodicals are maintained. The College also has access to over 20,000 electronic books which can be viewed at any time from students' homes. The online research databases contain more than 7,000 full-text magazines, journals and newspapers, including many years of back files. An online catalog provides records for 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 and Fridays from 7:30 a.m. to 2:30 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 Nevada County Campus Library occupies a two-story building and provides a full range of library services, as well as serving as the campus testing center. A faculty librarian is at the reference desk most of the library's open hours. The open stack book and media collections shelve 20,000 titles and 100 print periodicals. Electronic subscriptions, print

and media materials are shared among all the campuses. Computers are available for research and homework. The library is open during the fall and spring semesters Monday through Thursday, 9:00 a.m. to 6:30 p.m. and Friday, 9:00 a.m. to 12:00 p.m. Summer session and holiday week hours are as announced.

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.

Parking and Security Services

The District Parking and Security Services Office is located in room U-13 on the Rocklin Campus. Parking and Security Services at the Nevada County Campus is located in the N1 Building. Security Officers are responsible for enforcing parking regulations, responding to emergencies, locking/unlocking 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/about-us/admin-services/security/index.php.

Dial 911 for an emergency, or dial extension 7120 for a non-emergency, from any of the help phones located throughout the Rocklin and Nevada County campuses. To contact the Rocklin office from non-campus phones, dial (916) 660-7120. The Nevada County Campus Parking and Security Services office may be reached at (530) 274-5323.

Transfer Services

Transfer services are provided through Career and Transfer Connections in the Winstead Center at the Rocklin campus. Resources and services are available to all students. Transfer Services facilitates the transition from Sierra College to a baccalaureate college or university. Services are designed to reduce the complexity of transferring by using articulation and transfer agreements, transfer workshops, career and major preparation workshops, and transfer college fairs.

Admission counselors from local universities, such as CSU Sacramento and UC Davis, visit the Rocklin campus regularly to meet individually with students and provide information about admission, specific majors, general education requirements and transfer procedures. Additional university admission advising may be available via online or phone appointments.

Career and Transfer Connections maintains electronic catalog information for California public and private schools, and out-of-state universities.

Sierra College has Transfer Admission Guarantee (TAG) programs with UC Davis, UC Irvine, UC Merced, UC Riverside, UC Santa Barbara, and UC Santa Cruz. Meeting eligibility requirements for a TAG necessitates careful course planning. Students who are considering transfer to the



University of California are advised to meet regularly with a Sierra College counselor for advisement.

For information about transfer, contact Career and Transfer Connections at the Rocklin campus at (916) 660-7481 or email transferservices@sierracollege.edu. 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.



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Veterans Resource Center

The Sierra College Veterans Resource Center provides assistance to veterans and their dependents who are eligible for various educational benefits. The Sierra College Veterans Resource Center is located at the Rocklin campus, Building LR, Room 224. The phone number is (916) 660-7470, or visit our website at www.sierracollege.edu/veterans.

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

- Completion of the "Steps to Success," which includes assessment-placement 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 Resource Center.
- 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.
- A veteran's educational goal/objective must be declared upon application for VA educational 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. Failure to maintain a 2.0 GPA may result in termination of benefits.

- Adds, drops, changes of address, etc., must be reported to the Veterans Resource Center.

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 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



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Sierra College's Financial Aid programs stem from a belief that student aid services should facilitate and foster the successful academic participation of financially needy students. As part of the commitment to help students have a positive college experience, the Financial Aid Office provides this information to help students better understand their relationship with financial aid.

State and federal regulations allow community colleges participating in financial aid programs discretion when establishing college specific policies and procedures. It is the goal of the Financial Aid Office to provide students with the most current policy information affecting their financial aid while at Sierra College. As new state or federal regulations take effect or college practices evolve, this policy will be updated and posted on the website.

The main Financial Aid 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. Sierra

College's Federal School Code is 001290.

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 maintain the Financial Aid 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 Direct 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

PHOTO BY DARYL STINGFIELD

California Dream Act

Sierra College participates with the California Dream Act to help determine financial aid eligibility for students admitted under AB 540 regulations. The California Dream Act application may be completed at http://www.csac.ca.gov/dream_act.asp.

Academic Year

Academic programs are calculated in units and measured by semesters. Sierra College has established two 16-week semesters (fall and spring), and one 8-week summer session per academic year. This meets the federal 30-week minimum academic year definition.

This definition is important for financial aid purposes because it affects calculation of payment periods. Sierra College makes financial aid payments based on the semester rather than by weeks or classes attended.

Financial Aid Programs

When students apply for financial aid, the funds usually come from more than one source (federal, state, private, etc.). This combination of financial resources is referred to as packaging. State programs are always subject to an approved State budget.

Sierra College participates in the following financial aid programs:

- Federal Pell Grant;
- Federal Supplemental Educational Opportunity Grant (FSEOG);
- Federal Work Study (FWS);
- William D. Ford Federal Direct Loan Program;
- Board of Governors Fee Waiver Program (BOGFW);
- Cal Grants B and C;
- Extended Opportunity Programs and Services Grants (EOPS); and
- Scholarships.

Pell Grant Lifetime Maximum

Effective fall 2012, students can only receive Pell Grants for 6 years or 12 semesters of full-time enrollment at all 2 and 4 year schools across the nation. Sierra College defines full-time enrollment as 12 or more units. Students enrolled less than full-time will have their lifetime eligibility adjusted accordingly. Students may monitor their lifetime eligibility at https://www.nsls.ed.gov/nsls_SA/SaFinShowSummary. do. The maximum students can use in a lifetime is 600%.

Financial Aid Satisfactory Academic Progress

Federal regulations require that all financial aid recipients make financial aid satisfactory academic progress and remain in good academic standing. At Sierra College, academic progress is reviewed at the end of each semester. Students who do not complete any units in the semester will be terminated from financial aid as soon as grades are available.



Determining Enrollment Status: Prior to each financial aid disbursement, the Financial Aid Office verifies the number of units in which students are enrolled. For fall 2014, students must be enrolled in all units by September 7, 2104. For spring 2015, students must be enrolled in all units by February 8, 2015.

Enrollment status is defined as the number of units in which a student is enrolled at the final disbursement for the semester. Completed units mean that credit was received for the enrolled classes. Classes in which a student receives an "F," "I," "NP," "MW," or "W" are not counted as completed units for satisfactory academic progress, but are counted as units attempted.

To be considered as making satisfactory progress, students must complete 75% of all enrolled courses with a 2.0 cumulative GPA. The following number of units are required based on enrollment status.

Enrollment Status	Required Unit Completion
Full-time (12+ units)	= at least 9 units
3/4 time (9–11.5 units)	= at least 8 units
1/2 time (6–8.5 units)	= at least 6 units
Less than 1/2 time (0.5–5.5 units)	= all enrolled units

Units earned through credit by examination are not counted for financial aid purposes.

Maximum Time Length and 90 Unit Limitation: Federal regulations allow students to receive aid for 150% of the published length of an undergraduate program. Because students can earn a degree by completing 60 units, students may receive aid for a maximum of 90 units, including accepted transfer units. Up to 30 units of remedial coursework, including ESL courses, are deducted. Students terminated from financial aid due to the maximum unit limit may appeal to the Financial Aid Advisory Committee (FAAC).

Repeated Coursework: Repeated coursework that falls under the following conditions cannot be included in enrollment status for Title IV Federal Aid eligibility:

- Repeating a previously passed course more than twice. A grade of D or better is considered passing.
- Repeating a previously passed course due to failing other coursework.

Remedial (including ESL) Coursework: Remedial and ESL courses are considered the same as credit courses for tuition, full-time academic standing, and SAP, and are included in the 75% completion requirement. Financial aid may be paid for a maximum of 30 remedial units.

Transfer Units: It is the student's responsibility to request transcripts from previously attended institutions if choosing to apply any units toward the current educational objective. Upon the student's request, transcripts from regionally accredited colleges will be evaluated and all units applicable to the current educational objective will be counted when calculating the maximum time length for financial aid. All units attempted, even if earned before the student was receiving financial aid will be considered toward the maximum time length.

Definitions

Good: Students are considered in good standing if they complete at least 75% of all enrolled units and earn a 2.0 GPA or higher for the semester.

Warning: Students are placed on warning status if they complete less than 75% of all enrolled units for the semester, but complete at least .5 unit. Students are removed from warning at the end of the next semester if they complete at least 75% of their units with a 2.0 GPA.

Termination: Students are terminated if they complete zero units or if they were on warning from a previous semester and then completed less than 75% of the courses for which aid was provided or if their cumulative GPA was less than 2.0.

Probation: Students are placed on probation if they receive an approved reinstatement petition. Students may continue on probation if their cumulative GPA is below 2.0 but their term GPA is above 2.0. This is considered making progress term-by-term. Students may be removed from probation if they complete at least 75% of their units and achieve a cumulative GPA of 2.0. Students placed on financial aid reinstatement probation are not eligible for student loans. Students placed on maximum unit probation may receive federal student loans.

75% Completion Rate: Students must pass at least 75% of their coursework each semester.

Financial Aid Termination: Students exceeding their maximum time length (90 attempted units), not completing the required number of units, or earning a cumulative grade point average of less than 2.0 will be terminated from financial aid. Students terminated because of insufficient units completed or a GPA deficiency will not receive further

financial aid until they have filed and received an approved Reinstatement Petition.

Appeal Procedures: Any student who has been terminated from financial aid may submit a written appeal to the Financial Aid Advisory Committee (FAAC). Appeals are reviewed and approved or denied based on individual circumstances and the student's proposed course of action. If approved, financial aid may only be provided for courses listed on the Student Education Plan.

Students reaching the maximum time length of 90 units attempted may submit a written appeal to the FAAC. If approved, financial aid will be given for a specific length of time.

Financial Aid Disbursement

All financial aid is disbursed to students through the Bursar's Office. Financial aid funds will first be used to satisfy any student debt owed to Sierra College. Any remaining balance goes directly to the student by the disbursement method selected by the student (debit card, direct deposit, or paper check). Debit cards and checks are sent to the mailing address on file with Admissions and Records.

The first disbursement of financial aid (grants, federal student loans, and scholarships) to eligible students is the week following the add/drop period. For the fall and spring semesters, this is the end of the third week of the semester. For students who apply or complete their files after the third week, financial aid is usually ordered once a week. Orders are processed Monday mornings and direct deposit is normally completed by Friday evening of the same week. Allow additional time for new debit cards and paper checks to be received in the mail.


Pell Grants must be paid at the level of units in which students are enrolled at the end of the add/drop period for the semester. Students adding a class after the add/drop deadline will not receive Pell funds for the additional units.

Federal Direct Student Loans are issued in two disbursements. If a student loan covers fall and spring, the second disbursement will be available the third week of the spring semester, as long as the student is eligible and enrolled in 6 or more units. If the student loan covers only one semester, the second disbursement will be available after the withdrawal deadline has passed, as long as the student is still enrolled in 6 or more units.

Students who are first-time, first-year borrowers must wait until 30 days after the semester has begun to receive their first disbursement.

Scholarships are issued in two disbursements; half for fall and half for spring.

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 Students of Sierra College (ASSC) upon enrollment and are guaranteed equal and unbiased representation by the elected representatives of the Student Senate.

Campus Activities

Learning opportunities for Sierra College students extend beyond the classroom to the many extracurricular opportunities available at district campuses. The ASSC provides avenues to develop leadership skills and provide service to the college and the community while exploring a wide range of ideas and perspectives.

The Student Senate is the formal voice of the students and provides the opportunity to participate in the shared governance of Sierra College. The officers of the Student Senate represent the students to the faculty, staff, and Board of Trustees.

Student clubs enhance the college experience through student involvement in specialized fields of interest associated with an academic major, a personal interest in a particular activity, or service to the college or the community. For a complete list of campus clubs, visit www.sierracollege.edu/student-services/campus-life/clubs/index.php.

The Campus Life Office, located in J-7 at the Rocklin campus, is a resource center dedicated to enhancing the educational experience for all students. The Campus Life Program provides pathways for students to become informed, educated leaders and citizens.

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, golf, soccer, softball, swimming, tennis, volleyball and water polo

Sierra College is a member of the California Community College Athletic Association and competes in the Big 8 Conference and the Northern California Football Association's Nor Cal League. 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 Nor Cal League include American River College, Butte College, College of the Siskiyous, Feather River College, and Sacramento City College.

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 Tim Haenny, Campus Life Coordinator, or visit www.sierracollege.edu/programs/honors.htm. 



DEGREES AND CERTIFICATES



PHOTO BY DAVID BLANCHARD

Associate of Arts/Associate of Science Degrees

Students planning to graduate with an Associate of Arts (AA) or an Associate of Science (AS) degree must:

1. Complete major requirements with grades of "C" or better.
2. Complete a minimum of 60 degree-applicable semester units, 12 of which must be completed at Sierra College. (Units received through Credit by Examination do not count toward this requirement.)
3. Earn a minimum grade point average of at least 2.0 in all degree-applicable coursework.
4. Complete one of the following three general education patterns:
 - a. Associate Degree Requirements (pages 44-45),
 - b. California State University General Education Breadth Requirements (CSU GE) (pages 50-51), or
 - c. Intersegmental General Education Transfer Curriculum (IGETC) (pages 52-53).

Associate in Arts for Transfer/Associate in Science for Transfer Degrees

California community colleges offer associate degrees for transfer to the California State University system. These degrees are designed to provide clear pathways to CSU majors and baccalaureate degrees. Students awarded associate degrees for transfer and meeting the CSU

minimum transfer admission requirements are guaranteed admission with junior standing within the CSU system. Students are also given priority admission consideration to their local CSU campus, or to a program that is deemed similar to the community college major. This priority does not guarantee admission to a specific major or campus.

Students awarded associate degrees for transfer are able to complete their remaining requirements for the 120-unit baccalaureate degree within 60 semester or 90 quarter units.

Students should consult with a counselor for information on university admission and transfer requirements and to develop an educational plan that best meets their goals and needs. The following requirements apply for AA-T or AS-T degrees:

1. Completion of major requirements with grades of "C" or better.
2. Completion of 60 CSU-transferable semester units, 12 of which must be completed at Sierra College. (Units received through Credit by Examination do not count toward the 12-unit residency requirement.)
3. A minimum grade point average (GPA) of at least 2.0 in all CSU-transferable coursework. While a minimum of 2.0 is required for admission, some majors may require a higher GPA.
4. Certified completion of either the California State University General Education Breadth Requirements (CSU GE) (pages 50-51), or the Intersegmental General Education Transfer Curriculum (IGETC) (page 52-53).

NOTE: IGETC is the only approved option for the Computer Science for Transfer degree.

Certificates of Achievement

A Certificate of Achievement is designed to demonstrate that a student has completed coursework and developed capabilities relating to career or general education. Certificates of Achievement require a minimum of 18 units. Students must:

1. Earn grades of "C" or better in all required courses.
2. Complete at least 50% of the required coursework at Sierra College. (Units received through Credit by Examination do not count toward this requirement.)

Certificates of Achievement are recorded on student transcripts.

Gainful Employment Disclosure Information: The U.S. Department of Education requires colleges to disclose certain information about Title IV eligible certificate of



PHOTO BY DAVID BLANCHARD

achievement programs that “prepare students for gainful employment in a recognized occupation.” The information is intended to assist current and prospective students as they make career and educational choices. Specific information for each certificate program is located at www.sierra-college.edu/gainfulemployment.

Skills Certificates

A Skills Certificate is an acknowledgement that a 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 a minimum of 6 units and a maximum of 17.5 units. Students must:

1. Earn grades of “C” or better in all required courses.
2. Complete at least 50% of the required coursework at Sierra College. (Units received through Credit by Examination do not count toward this requirement.)

Skills certificates are not recorded on student transcripts.

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, MW, 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.

Regardless of catalog rights, a course may be used to satisfy a general education requirement if it was approved for the general education area at the time the course was successfully completed and the course complies with Title 5 regulations.

Catalog rights do not apply to entrance requirements for programs (e.g., Nursing).

General Education Reciprocity

Title 5 outlines and defines general education subject areas that each California Community College must include. As many students attend more than one college, and the courses that are locally approved for a particular GE area

vary among colleges, Sierra College grants reciprocity for all lower-division general education designated courses completed at California Community Colleges, California State Universities, and University of California campuses, provided the courses comply with Title 5 regulations.

Associate Degree for Transfer Reciprocity

For AA-T and AS-T degrees, reciprocity will be granted for those courses taken at other California community colleges in Transfer Model Curriculum (TMC) aligned degrees, provided that the transfer courses appear in the same specific area in the major pattern. The flexibility to move courses between areas is dependent upon the parameters defined in the individual TMC. TMC templates are maintained on the California Community Colleges Chancellor’s Office website. If there are any questions about course applicability, the discipline faculty must make the determination.

Double-Counting

Sierra College encourages double-counting, which is the practice of allowing students to use a course to satisfy both a general education requirement and a major requirement. While a course may be listed in multiple general education areas, it may only be used to satisfy one general education requirement.

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 lower-division college coursework posted to the Sierra College transcript is included in this GPA calculation.


Degree and Certificate Petitions

Students desiring an associate degree or certificate must file a petition with a campus Admissions and Records Office by the following semester deadlines:

December 2014 October 1, 2014
May or August 2015 March 1, 2015

Students requesting a duplicate diploma must submit a \$10.00 fee per diploma. Students requesting a duplicate certificate must submit a \$5.00 fee per certificate.

DegreeWorks

DegreeWorks is a web-based degree audit and academic advising tool that students may use to review progress toward graduation. The program takes courses from the student transcript and places them in general education and major areas so counselors and students can see the completed and remaining degree requirements. A ‘What-If’ option allows exploration of other majors for students thinking about changing majors. DegreeWorks is located in mySierra through the Academic Tools tab. 

ASSOCIATE DEGREE REQUIREMENTS



PHOTO BY RICHARD BROWN

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

	Units Required
<p>A. Natural Sciences (For an A.S. degree: must complete a laboratory science. Laboratory courses are <u>underlined</u>.)</p> <p>Life Sciences: Agriculture <u>156</u>, 198, <u>200</u>; Anthropology 1, <u>1/1L</u>, 10; Astronomy 7; Biological Sciences <u>1</u>, <u>2</u>, <u>3</u>, <u>4</u>, <u>5</u>, <u>6</u>, <u>7A/7B</u>, <u>8A/8B</u>, 10, 11, <u>14</u>, <u>15</u>, <u>21</u>, <u>22</u>, <u>24</u>, 30, <u>33</u>, 35, 36, <u>55</u>, 56, <u>56/56L</u>; Environmental Studies and Sustainability 1, 6, 10; Psychology 140, <u>140/140L</u>.</p> <p>Physical Sciences: Agriculture <u>221</u>; Astronomy 2, <u>2/11</u>, <u>2/14</u>, 5, <u>5/11</u>, <u>5/14</u>, 7, 10, <u>10/11</u>, <u>10/14</u>, 25; Chemistry <u>1A</u>, <u>1B</u>, <u>2A</u>, <u>2B</u>, <u>3A</u>, <u>3B</u>; Earth Science 1, <u>1/1L</u>, 2, 3, <u>3/3L</u>, 6, 7, 10, <u>10/10L</u>, 14, 15, <u>15/15L</u>; Environmental Studies and Sustainability 1, 6, 7, 10; Geography 1, <u>1/1L</u>, 4; Mathematics 30; Mechatronics 1; Physics 10, <u>10/11</u>, 105, <u>105/105L</u>, 110, <u>110/110L</u>, 205, <u>205/205L</u>, 210, <u>210/210L</u>, 215, <u>215/215L</u>.</p>	3
<p>B. Social and Behavioral Sciences</p> <p>Behavioral Sciences: Anthropology 2, 4, 5, 6, 7, 9, 12, 14, 27; Communication Studies 1, 3, 5, 7, 8, 10, 70, 71; Environmental Studies and Sustainability 1; Geography 3; Human Development and Family 1, 4, 9, 21, 22, 25; Humanities 3; Nutrition and Food Science 10, 14; Psychology 100, 103, 104, 105, 106, 107, 108, 110, 127, 130, 150, 160, 170; Social Science 10, 13; Sociology 1, 2, 3, 4, 5, 20, 24.</p> <p>Social Sciences: Administration of Justice 50; Agriculture 196, 198, 215; Business 49; Economics 1A, 1B; Fashion 15; Geography 2, 3, 5; History 4A, 4B, 17A, 17B, 18A, 18B, 19A, 19B, 20, 21, 22, 23, 24, 27, 50, 51; Political Science 1, 2, 3, 4, 7, 8, 9, 12, 16, 27; Psychology 170; Social Science 20, 25, 30, 35, 50; Sociology 10, 27; Women and Gender Studies 1, 4.</p>	3
<p>C. Humanities</p> <p>Fine Arts: Applied Art and Design 44, 60; Art 1A, 1B, 1C, 1D, 1E, 1F, 1G, 2, 3, 4A, 4B, 5A, 6C, 7A, 8A, 9A, 10, 11, 12A, 17, 18A, 18B, 19, 20, 22, 24, 32, 33, 34, 40A, 41; Drama 10A, 13, 16A, 21; English 18, 19, 20, 21; Fashion 12; Humanities 1, 2, 3; Music 2, 6A, 9A, 10, 11, 12A, 12B, 13, 20, 39A, 39B, 39C, 39D, 40A, 40B, 40C, 40D, 46, 47, 48, 50, 54; Photography 10, 60A, 65.</p> <p>Literature and Language: Applied Art and Design 12; Communication Studies 10, 12; Deaf Studies 1, 2, 3, 4; Drama 21; English 1B, 16, 24, 27, 29, 30A, 30B, 32, 33, 34, 35, 37, 38, 40, 41, 42, 44, 45, 46A, 46B, 47A, 47B, 48; French 1, 2, 3, 4; German 1, 2; History 4A, 4B; Human Development and Family 44; Humanities 5, 10, 15, 17, 20, 21; Italian 1, 2, 3; Japanese 1, 2; Lesbian, Gay, Bisexual and Transgender Studies 2; Philosophy 2, 4, 6, 10, 13, 15, 20, 21, 27, 30, 50, 60, 65; Social Science 50; Spanish 1, 2, 3, 4, 15, 16, 17.</p>	3
<p>D. Language and Rationality</p> <p>1. English Composition: English 1A, 2, 12, English as a Second Language 40W. (completion with a grade of "C" or better)</p>	3
<p>2. Communication and Analytical Thinking: Business 85; Communication Studies 1, 2, 3, 5, 7, 8, 10, 71; Computer Science 10; English 1B, 1C, 11, 24; Mathematics B, D, 8, 10, 12, 13, 15, 16A, 16B, 17, 18, 20, 24, 29, 30, 31, 32, 33, 42; Philosophy 4, 12; Psychology 105, 142; Sociology 15.</p>	3
<p>E. Health Education/Physical Education</p> <p>Administration of Justice 60; Health Education 1, 2, 10; Health Sciences 2, 7; Human Development and Family 61; Nursing Assistant 3; Nutrition and Food Science 5, 10, 13, 14; Personal Development 70; Physical Education 3A, 3B, 5A, 5B, 6, 7, 8, 9, 10, 11, 13, 14, 16, 17, 19, 22, 23, 26, 27A, 27B, 29, 30, 32, 35, 36, 39, 42, 51B, 51C, 51D, 53, 54, 55, 56A, 56B, 63, 66, 68, 69, 71, 72, 73, 74, 75, 80, 81, 83, 84, 85, 87, 88, 93, 200; Psychology 130, 150; Recreation Management 70, 71, 72; Sociology 5.</p>	2

continued on next page

continued from previous page

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, 10; English 16, 24, 27, 47A, 47B; French 3, 4; Geography 2, 3, 5; History 17A, 17B, 18A, 18B, 19A, 19B, 20, 21, 23, 24, 27, 50, 51; Human Development and Family 25; Humanities 3, 9, 10; Italian 3; Japanese 1, 2; Lesbian, Gay, Bisexual and Transgender Studies 1, 2; Music 11; Philosophy 13,15, 27; Political Science 7, 9, 27; Psychology 103, 127; Registered Nursing 24; Social Science 10, 13, 20, 25, 30, 35, 50; Sociology 3, 10, 27; Spanish 3, 4; Women and Gender Studies 1, 2, 3, 4.	3
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II. Learning Skills

Courses used to fulfill learning skills requirements may also be used to satisfy major and/or general education requirements.

A. Writing: Completion of one of the following courses with grade of "C" or better:

English 1A, 2, 12; English as a Second Language 40W.	0
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B. Reading: Demonstrated proficiency by ONE of the following:

1. Completion of one of the following courses with grade of "C" or better: English 1B, 1C, 11, 50, N; English as a Second Language 30C, 30R; Philosophy 4; OR 2. Possession of either a bachelor or higher degree from a U.S. regionally accredited institution; OR 3. *Satisfactory score on exam (no college units granted).	degree, exam or course (0-6)
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C. Oral Communications: Demonstrated proficiency by ONE of the following:

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 2. *Written petition certifying acceptable experience and an oral performance to demonstrate proficiency (no college units granted).	petition or course (0-3)
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D. Mathematics: Demonstrated proficiency by ONE of the following:

1. Completion of one of the following courses with grade of "C" or better: Mathematics B; Mathematics D or higher; Psychology 142; Sociology 15; OR 2. *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 3. *Minimum score on ACT of 25 or SAT of 560 (no college units granted).	exam or course (0-6)
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TOTAL GENERAL EDUCATION AND LEARNING SKILLS UNITS 20-35

III. Major

Minimum of 18 units in a group of courses described in the catalog. Courses must be completed with grades of "C" or better. 18-44

IV. Electives

Any additional degree-applicable credit courses. 0-22

GRADE POINT AVERAGE: cumulative GPA of 2.0 or better in all degree-applicable coursework

TOTAL DEGREE-APPLICABLE UNITS REQUIRED FOR A.A. or A.S. DEGREE

(At least 12 of the 60 degree-applicable units must be completed at Sierra College.
Units received through Credit by Examination do not count toward this requirement.)60

*See Counselor for details.

Notes:

1. Credit for only one course from English A, N, 50, 50L, or 60 may be applied toward the degree.
2. See page 43 for Catalog Rights.
3. The associate degree general education pattern does not meet transfer general education requirements.
4. Students pursuing an AA-T or AS-T are required to complete the CSU General Education Breadth or IGETC pattern.
5. While a course might satisfy more than one general education breadth requirement (Areas A-F), it may not be counted more than once for these purposes.
6. A course may be used to satisfy both a general education breadth requirement and a major requirement.
7. Students may check their degree status using DegreeWorks; access is through the Academic Tools tab on mySierra.

ASSOCIATE DEGREES



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Administration of Justice

- (a) Law Enforcement: AA, AS
- (b) Courts: AA, AS
- (c) Corrections: AA, AS

Agriculture

- (a) Sustainable Agriculture: AS

Applied Art and Design

- (a) Graphic Design: AA, AS
- (b) Illustration: AA, AS
- (c) Multimedia: AA, AS

Art

- (a) Art History: AA
- (b) Studio Art: AA

Automotive Analysis: AA, AS

Biological Sciences

- (a) Biological Sciences: AS
- (b) Watershed Ecology: AS

Business

- (a) Accounting: AA, AS
- (b) Administrative Professional: AA, AS
- (c) Business Administration: AA, AS
- (d) Business Entrepreneurship: AA, AS
- (e) General Business: AA, AS
- (f) Management: AA, AS
- (g) Marketing: AA, AS
- (h) Real Estate: AA, AS

Chemistry: AS

Communication Studies

- (a) Communication Studies—General: AA, AS
- (b) Communication Studies—Graphic Design: AA, AS
- (c) Communication Studies—Mass Communication/Multimedia: AA, AS
- (d) Communication Studies—Photography: AA, AS

Computer Information Systems

- (a) Computer Applications: AA, AS
- (b) Networking: AA, AS
- (c) Technical Support: AA, AS
- (d) Virtual Office Professional—Administrative: AA, AS

Computer Science

- (a) Computer Science: AA, AS
- (b) Management Information Systems: AA, AS

Construction and Energy Technology

- (a) Energy Technology: AS
- (b) Residential Building Construction: AA, AS

Deaf Studies: American Sign Language: AA

Drafting and Engineering Support

- (a) Architectural/Civil: AA, AS
- (b) Mechanical/Civil: AA, AS

Drama

- (a) Theater Arts: AA

Earth Science

- (a) Geology: AS

Education

- (a) Liberal Studies—Elementary Education: AA

Engineering: AA, AS

English: AA

Environmental Studies and Sustainability: AS

Fashion

- (a) Fashion Industries: AS

Fire Technology: AA, AS

History: AA

Human Development and Family

- (a) Early Childhood Education: AA, AS
- (b) Early Childhood Education—Master Teacher: AA, AS
- (c) Early Childhood Education—Site Supervisor: AA, AS

Humanities

- (a) Asian Studies: AA
- (b) Diverse Perspectives: AA
- (c) General: AA

Lesbian, Gay, Bisexual and Transgender Studies: AA

Liberal Arts

- (a) Arts and Cultures: AA

Mathematics: AA, AS

Mechatronics Technology: AA, AS

Music: AA, AS

Natural Science: AA, AS

Nursing, Registered: AA, AS

Philosophy: AA

Photography: AA, AS

Physical Education: AA, AS

Physics: AS

Psychology: AA, AS

Recreation Management: AA, AS

Social and Behavioral Sciences: AA, AS

Welding Technology: AA, AS



ASSOCIATE DEGREES FOR TRANSFER

California community colleges offer associate degrees for transfer to the California State University system. These degrees are designed to provide clear pathways to CSU majors and baccalaureate degrees. Students awarded associate degrees for transfer and meeting the CSU minimum transfer admission requirements are guaranteed admission with junior standing within the CSU system. Students are also given priority admission consideration to their local CSU campus, or to a program that is deemed similar to the community college major. This priority does not guarantee admission to a specific major or campus.

Students awarded associate degrees for transfer are able to complete their remaining requirements for the 120-unit baccalaureate degree within 60 semester or 90 quarter units.

For more information about Associate Degrees for Transfer, go to www.adegreewithaguarantee.com.

Administration of Justice for Transfer: AS-T

Anthropology for Transfer: AA-T

Art History for Transfer: AA-T

Business Administration for Transfer: AS-T

Communication Studies for Transfer: AA-T

****Computer Science for Transfer:** AS-T

Early Childhood Education for Transfer: AS-T

Economics for Transfer: AA-T

English for Transfer: AA-T

Geography for Transfer: AA-T

Geology for Transfer: AS-T

History for Transfer: AA-T

Journalism for Transfer: AA-T

Kinesiology for Transfer: AA-T

Mathematics for Transfer: AS-T

Philosophy for Transfer: AA-T

Physics for Transfer: AS-T

Political Science for Transfer: AA-T

Psychology for Transfer: AA-T

Sociology for Transfer: AA-T

Spanish for Transfer: AA-T

Studio Arts for Transfer: AA-T

Theatre Arts for Transfer: AA-T

**The Computer Science for Transfer AS-T degree requires completion of the Intersegmental General Education Transfer Curriculum (IGETC). CSU GE is not an option.

CERTIFICATES OF ACHIEVEMENT



A Certificate of Achievement is designed to demonstrate that a student has completed coursework and developed capabilities relating to career or general education. Certificates of Achievement require a minimum of 18 units.

Agriculture:

- (a) Sustainable Agriculture

Applied Art and Design:

- (a) Graphic Design
- (b) Illustration
- (c) Multimedia

Automotive Technology:

- (a) Air Conditioning and Body Electrical
- (b) Alignment and Brake
- (c) Automatic Transmission
- (d) Automotive Engine Machining
- (e) Emission and 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) Real Estate

Computer Information Systems:

- (a) Technical Support
- (b) Computer Applications
- (c) Networking
- (d) Virtual Office Professional—Administrative

Computer Science:

- (a) Embedded Systems
- (b) Web Programming

Construction and Energy Technology:

- (a) Residential Building Construction

Deaf Studies: American Sign Language

Drafting and Engineering Support:

- (a) Architectural/Civil
- (b) Mechanical/Civil

Engineering:

- (a) Civil Engineering Technology
- (b) General Engineering Technology

Fashion:

- (a) Fashion Industries

Fire Technology

Human Development and Family:

- (a) Early Childhood Education Teacher

Mechatronics Technology

Nutrition and Fitness Trainer

Photography

Recreation Management:

- (a) Recreation Specialist

Welding

SKILLS CERTIFICATES

A Skills Certificate is an acknowledgement that a 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 a minimum of 6 units and a maximum of 17.5 units.

Administration of Justice:

- (a) Reserve Peace Officer

Agriculture:

- (a) Sustainable Agriculture Business

Applied Art and Design:

- (a) Digital Illustration
- (b) Graphic Design
- (c) Video Production and Editing
- (d) Visual Arts and Media
- (e) Web Design

Automotive Technology:

- (a) Entry Level Automotive Service and Repair

Business:

- (a) Small Business

Computer Information Systems:

- (a) Digital Literacy
- (b) Information Assurance Technician (Level 1)
- (c) Information Assurance Technician (Level 2)

Construction and Energy Technology:

- (a) Photovoltaic
- (b) Photovoltaic Advanced

Drafting and Engineering Support:

- (a) Architectural Drafting Specialist
- (b) Drafting Essentials
- (c) Mechanical Drafting Specialist

Drama:

- (a) Costuming
- (b) Stagecraft

English as a Second Language:

- (a) English as a Second Language Academic Preparedness

Fashion:

- (a) Fashion Design
- (b) Fashion Merchandising

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

CALIFORNIA STATE UNIVERSITY

GENERAL EDUCATION BREADTH REQUIREMENTS 2014-2015

A. English Language Communication and Critical Thinking (One course in each of areas A1, A2 and A3)

A1. Oral Communication: Business 85; Communication Studies 1, 2, 3, 5.	3
A2. Written Communication: English 1A; English as a Second Language 40W.	3
A3. Critical Thinking: Communication Studies 2; English 1B, 1C, 11; Philosophy 4, 12.	3

B. Scientific Inquiry and Quantitative Reasoning (Minimum of one course in each of areas B1, B2 and B4, plus one corresponding laboratory component required from either area B1 or B2; laboratory courses are underlined)

B1. Physical Science: Agriculture 221; Astronomy 2, <u>2/11</u> , <u>2/14</u> , 5, <u>5/11</u> , <u>5/14</u> , 7, 10, <u>10/11</u> , <u>10/14</u> , 25; Chemistry 1A, 1B, 2A, 2B, 3A, 3B; Earth Science 1, <u>1/1L</u> , 2, 3, <u>3/3L</u> , 7, 10, <u>10/10L</u> , 14, 15, <u>15/15L</u> ; Environmental Studies and Sustainability 7; Geography 1, <u>1/1L</u> , 4; Mechatronics 1; Physics 10, <u>10/11</u> , 105, <u>105/105L</u> , 110, <u>110/110L</u> , 205, <u>205/205L</u> , 210, <u>210/210L</u> , 215, <u>215/215L</u> .	3
B2. Life Science: Agriculture <u>156</u> , <u>200</u> ; Anthropology 1, <u>1/1L</u> , 10; Biological Sciences 1, 2, 3, 4, 5, 6, <u>7A & 7B*</u> , <u>8A & 8B*</u> , 10, <u>11</u> , <u>14</u> , <u>15</u> , <u>21</u> , <u>22</u> , <u>33</u> , 35, 36, <u>55</u> , 56, <u>56/56L</u> ; Psychology 140, <u>140/140L</u> .	3
B3. Laboratory Activity: One of the courses selected from area B1 or B2 must include a related laboratory. Laboratory courses are <u>underlined</u> .	
B4. Mathematics/Quantitative Reasoning: Mathematics 8, 10, 12, 13, 15, 16A, 16B, 17, 18, 20, 24, 29, 30, 31, 32, 33, 42; Psychology 142; Sociology 15.	3

* Students must complete the series for CSU General Education Certification.

C. Arts and Humanities (Minimum of one course in each of areas C1 and C2)

C1. Arts: Applied Art and Design 60; Art 1A, 1B, 1C, 1D, 1E, 1F, 1G, 2, 4A, 4B, 5A, 6C, 7A, 8A, 9A, 10, 11, 12A, 17, 19, 34, 40A; Drama 10A, 13, 16A; English 37, 38, 40, 42; Fashion 12; Humanities 1, 2, 3; Music 2, 6A, 9A, 10, 11, 12A, 12B, 13, 46, 47, 48, 50, 54; Photography 10, 60A, 65; Social Science 50.	9
C2. Humanities: Applied Art and Design 12; Communication Studies 12; Deaf Studies 1, 2, 3, 4, 10; English 1B, 18, 19, 20, 21, 24, 27, 29, 30A, 30B, 32, 33, 34, 35, 37, 38, 40, 41, 44, 45, 46A, 46B, 47A, 47B, 48; French 1, 2, 3, 4; German 1, 2; History 4A, 4B, 17A, 17B, 18A, 18B, 19A, 19B, 20, 21, 22, 23, 24, 27, 50, 51; Human Development and Family 44; Humanities 1, 2, 3, 5, 9, 10, 15, 17, 20, 21; Italian 1, 2, 3; Japanese 1, 2; Lesbian, Gay, Bisexual and Transgender Studies 2; Philosophy 2, 6, 10, 13, 15, 20, 21, 27, 30, 50, 60, 65; Social Science 25; Spanish 1, 2, 3, 4, 15, 16, 17; Women and Gender Studies 3.	

D. Social Sciences (Minimum of one course each in at least two areas, D0 through D9)

D0. Sociology and Criminology: Administration of Justice 50; Human Development and Family 22; Psychology 103; Social Science 10; Sociology 1, 2, 3, 4, 10, 20, 24, 27; Women and Gender Studies 4.	9
D1. Anthropology and Archeology: Anthropology 2, 4, 5, 6, 7, 9, 12, 27.	
D2. Economics: Agriculture 215; Economics 1A, 1B.	
D3. Ethnic Studies: Anthropology 4, 7; History 18A, 18B, 23; Humanities 3; Social Science 10, 13, 20, 25, 30, 35, 50; Sociology 3.	
D4. Gender Studies: Anthropology 27; History 27; Humanities 9; Lesbian, Gay, Bisexual and Transgender Studies 1; Political Science 27; Sociology 5, 10, 27; Women and Gender Studies 1, 2, 3, 4.	
D5. Geography: Geography 2, 3, 5.	
D6. History: History 4A, 4B, 17A, 17B, 18A, 18B, 19A, 19B, 20, 21, 22, 23, 24, 27, 50, 51; Political Science 2, 3, 4, 7.	

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	Units
D7. Interdisciplinary Social or Behavioral Science: Agriculture 198; Anthropology 4, 14; Communication Studies 7, 8, 10, 70; Environmental Studies and Sustainability 1; Fashion 15; Geography 2; Human Development and Family 1, 4, 9, 21, 22; Nutrition and Food Science 10; Psychology 105, 106, 110; Social Science 10, 13, 50; Sociology 1, 2, 4, 20.	
D8. Political Science, Government and Legal Institutions: Administration of Justice 50; Business 49; Geography 2; History 4A, 4B; Political Science 1, 2, 3, 4, 7, 8, 9, 12, 16, 27; Social Science 40.	
D9. Psychology: Human Development and Family 9, 21; Psychology 100, 103, 104, 105, 106, 107, 108, 110, 127, 130, 150, 160, 170.	

E. Lifelong Learning and Self-Development (Minimum of 3 semester units, with no more than one unit from physical activity)

Biological Sciences 6, 55; Environmental Studies and Sustainability 6, 10; Health Education 2, 10; Human Development and Family 1, 9, 21, 22, 61; Nutrition and Food Science 10, 13; Personal Development 6, 70; Physical Education 32, 83, 84; Psychology 100, 104, 106, 108, 110, 127, 130, 150; Sociology 4, 5. Physical Activity (1 unit maximum) Physical Education 3A, 3B, 5A, 5B, 6, 7, 8, 9, 10, 11, 13, 14, 16, 17, 19, 22, 23, 26, 27A, 27B, 29, 30, 36, 39, 42, 51B, 51C, 51D, 53, 54, 55, 56A, 56B, 66, 69, 71, 72, 73, 74, 75, 80, 85, 87, 93, 200; Recreation Management 70, 71.	3
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CSU Graduation Requirement in United States History, Constitution and American Ideals (This CSU graduation requirement may be met before or after transfer to a CSU campus. Minimum of 6 units chosen from one of the following course combinations, A-G)

A. History 17A and History 17B. B. History 17A and History 20. C. History 17A and Political Science 1. D. History 17B and History 27. E. History 17B and Political Science 1. F. History 18A and Political Science 1. G. History 18B and Political Science 1. H. History 20 and History 27. I. History 27 and Political Science 1.	6*
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* Courses may be used to fulfill both the CSU General Education Breadth requirements and the CSU graduation requirement in U.S. History, Constitution and American Ideals.

MINIMUM LOWER-DIVISION GENERAL EDUCATION UNITS	39
Additional upper-division general education units at the California State University campus	9
Minimum general education units to obtain Bachelor's degree	48

NOTES:

1. CSU admission eligibility requires that each course fulfilling areas A1, A2, A3 and B4 is completed with a grade of "C" or better.
2. While a course may be listed in multiple areas, it may only be used to satisfy one area requirement. (The U.S. History, Constitution and American Ideals graduation requirement is not part of CSU GE Breadth. Courses used to fulfill CSU GE Breadth may also be used to fulfill the U.S. History, Constitution and American Ideals graduation 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. Courses on this CSU General Education Breadth list are approved annually for the academic year, which begins with the Fall 2014 semester and remains valid through Summer 2015. If a course is taken before it is approved or after it is removed, it cannot be used to satisfy CSU GE Breadth. See www.assist.org for up-to-date as well as historical course approval information.
5. Students pursuing majors with extensive lower-division unit requirements, such as Engineering, are advised to focus on completing the pre-major requirements while meeting minimum admission requirements. Consult with a counselor to determine the most appropriate transfer path.
6. To qualify as an upper-division transfer, students must complete a minimum of 60 CSU transferable semester units (a maximum of 70 units will be accepted), with a 2.0 grade point average or higher in all transferable college units attempted.
7. CSU Sacramento requires: A 2.0 GPA in general education courses (except as noted above); and a foreign language for graduation.
8. The CSU Sacramento English 20 graduation requirement can be satisfied by completing Sierra's English 1B or 1C. Either of these courses may "double count" to meet the English 20 graduation requirement and the CSU General Education Breadth requirement for area A3.

Effective Fall 2011, completion of CSU General Education Breadth fulfills Sierra College associate degree general education and learning skills requirements.

IGETC INTERSEGMENTAL GENERAL EDUCATION TRANSFER CURRICULUM FOR CSU AND UC 2014-2015

1. English Communication

(CSU: 3 courses, 9 semester/12–15 quarter units, one course each from areas 1A, 1B, and 1C)

(UC: 2 courses, 6 semester/8–10 quarter units, one course each from areas A and B)

	Units
1A. English Composition English 1A.	6–9
1B. Critical Thinking-English Composition English 1B, 1C.	
1C. Oral Communication (UC transfer students do not have to fulfill this area; CSU transfers must.) Communication Studies **1, 2, 3, **5.	

2. Mathematical Concepts and Quantitative Reasoning (1 course, 3 semester/4–5 quarter units)

Mathematics **12, **13, **15, **16A, **16B, **18, **20, **29, **30, **31, 32, 33, **42; Psychology **142; Sociology 15.	3
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3. Arts and Humanities (3 courses, 9 semester/12–15 quarter units. At least one must be from Arts and one from Humanities.)

3A. Arts Art 1A, 1B, 1C, 1D, 1E, 1F, 1G, 10, *11; Drama 13, 16A; English 42; Music 2, 6A, 9A, **10, 11, 12A, 12B, 13; Photography *10; Social Science 50.	9
3B. Humanities Applied Art and Design *12; Communication Studies *12; Deaf Studies 3, 4, 10; English 24, 27, 29, 30A, 30B, 32, 33, 34, 35, **37, **38, 40, 41, 46A, 46B, 47A, 47B, 48; French 2, 3, 4; History 4A, 4B, 17A, 17B, 18A, 18B, 19A, 19B, 20, 21, 22, 23, 24, 27, 50, 51; Humanities 1, 2, 3, 5, *9, 10, 15, 17, 20, 21; Italian 3; Japanese 2; Lesbian, Gay, Bisexual and Transgender Studies 2; Philosophy 2, 6, 10, 13, 15, 20, 21, 27, 30, 50, 60, 65; Social Science 25; Spanish 3, 4; Women and Gender Studies *3.	

4. Social and Behavioral Sciences (3 courses, 9 semester/12–15 quarter units. Courses from at least two areas 4A through 4J.)

4A. Anthropology and Archaeology Anthropology 2, 4, 5, 6, 7, 9, 27.	9
4B. Economics Agriculture 215; Economics 1A, 1B.	
4C. Ethnic Studies Anthropology 4, 7; History 18A, 18B, 23; Social Science 10, 13, 20, 25, 30, 35, 50; Sociology 3.	
4D. Gender Studies Anthropology 27; Humanities *9; Lesbian, Gay, Bisexual and Transgender Studies *1; Political Science 27; Sociology 5, *10, 27; Women and Gender Studies 1, *2, *3, *4.	
4E. Geography Geography 2, 3, 5.	
4F. History History 4A, 4B, 17A, 17B, 18A, 18B, 19A, 19B, 20, 21, 22, 23, 24, 27, 50, 51.	
4G. Interdisciplinary, Social and Behavioral Sciences Agriculture 198; Anthropology 4, 14; Communication Studies 7, 8, 10, 70; Environmental Studies and Sustainability 1; Human Development and Family **1, 4, **9, *21, *22; Psychology *110; Social Science 13, 50; Sociology *4, 20.	
4H. Political Science, Government and Legal Institutions Business 49; Political Science 1, 2, 3, 4, 7, 8, 9, 12, 16, 27.	
4I. Psychology Human Development and Family **9; Psychology 100, 103, 104, 105, 106, 107, 108, 127, 160, 170.	
4J. Sociology and Criminology Administration of Justice 50; Sociology 1, 2, 3, *10, 20, 27; Women and Gender Studies *4.	

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5. Physical and Biological Sciences (2 courses, 7-9 semester units/9-12 quarter units. One Physical Science course and one Biological Science course; one must include a corresponding laboratory. Laboratory courses are underlined.)

Units

5A. Physical Science Astronomy 2, <u>2/11</u> , <u>2/14</u> , 5, <u>5/11</u> , <u>5/14</u> , 7, 10, <u>10/11</u> , <u>10/14</u> , 25; Chemistry <u>**1A</u> , <u>**1B</u> , <u>**2A</u> , <u>**2B</u> , <u>**3A/3B</u> ; Earth Science 1, <u>1/1L</u> , 2, 3, <u>3/3L</u> , *7, 10, <u>10/10L</u> , 14, 15, <u>15/15L</u> ; Environmental Studies and Sustainability *7; Geography 1, <u>1/1L</u> , 4; Physics <u>**10</u> , <u>**10/11</u> , <u>**105</u> , <u>**105/105L</u> , <u>**110</u> , <u>**110/110L</u> , <u>**205</u> , <u>**205/205L</u> , <u>**210</u> , <u>**210/210L</u> , <u>**215</u> , <u>**215/215L</u> .	7-9
5B. Biological Science Agriculture * <u>156</u> , <u>200</u> ; Anthropology 1, <u>1/1L</u> , 10; Biological Sciences 1, <u>**2</u> , <u>**3</u> , <u>**4</u> , <u>**5</u> , <u>**6</u> , <u>**10</u> , <u>**11</u> , 14, 15, * <u>21</u> , <u>**22</u> , <u>**33</u> , <u>**55</u> , <u>**56</u> , <u>**56/56L</u> ; Psychology 140, <u>140/140L</u> .	
5C. Laboratory Activity One of the courses selected from area 5A or 5B must include a related laboratory. Laboratory courses are <u>underlined</u> .	

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 6A, 6B, 6C, or 6D below)

6A. 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.	0-4
6B. Completion of two years of the same foreign language in high school with grades of "C" or better.	
6C. 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.	
6D. 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.	

CSU Graduation Requirement In U.S. History, Constitution and American Ideals (6 sem. units/2 courses)

(Not part of IGETC; this CSU graduation requirement may be met before or after transfer to a CSU campus.)

A. History 17A and History 17B. B. History 17A and History 20. C. History 17A and Political Science 1. D. History 17B and History 27. E. History 17B and Political Science 1. F. History 18A and Political Science 1. G. History 18B and Political Science 1. H. History 20 and History 27. I. History 27 and Political Science 1.	6+
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+Courses may be used to fulfill both the IGETC requirements and the CSU graduation requirement in U.S. History, Constitution and American Ideals.

NOTES:

- Students should consult with counselors to determine the most appropriate general education patterns for their intended majors and transfer institutions.
- Courses listed in multiple areas will not be certified in more than one area except for courses in Language Other Than English.
- Courses taken as preparation for a major will also satisfy the corresponding portion of the IGETC requirements.
- Each course used to fulfill IGETC requirements must be completed with a minimum grade of "C" or better.
- Advanced placement (AP) exams can be used to satisfy all areas of IGETC except for the Critical Thinking-English Composition and Oral Communication requirements. IGETC policy is to accept a score of 3 or higher to clear one course.
- International Baccalaureate (IB) exams can be used to satisfy all areas of IGETC except for the Area 1 requirements. IGETC 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 54-56 of the catalog and the Counseling Office for additional information.

Effective Fall 2011, Completion of IGETC fulfills Sierra College associate degree general education and learning skills requirements.

TRANSFERABLE COURSES TO CSU SYSTEM

CALIFORNIA STATE UNIVERSITY BACCALAUREATE LEVEL COURSE LIST 2014-2015

- Administration of Justice** 28, 50, 51, 52, 53, 54, 55, 56, 57, 58, 62, 67, 69, 70, 72, 73, 74, 75, 76, 77, 88, 89, 95*
- Agriculture** 28, 95*, 156, 159, 164, 196, 198, 200, 203, 215, 221
- Anthropology** 1, 1L, 2, 4, 5, 6, 7, 9, 10, 12, 14, 27, 28
- Applied Art and Design** 12, 20, 28, 30, 44, 50, 52, 53, 54, 55, 60, 61, 62, 66, 70, 71, 73, 75, 76, 79, 80, 83, 85, 86, 90, 95*
- Art** 1A, 1B, 1C, 1D, 1E, 1F, 1G, 2, 3, 4A, 4B, 5A, 5B, 6C, 7A, 7B, 8A, 8B, 9A, 9B, 10, 11, 12A, 12B, 17, 18A, 18B, 19, 20, 22, 24, 28, 32, 33, 34, 40A, 40B, 41, 52, 55, 71, 73, 95*
- Astronomy** 2, 5, 7, 10, 11, 14, 25, 28
- Athletics** 100, 101, 105, 106, 107, 109, 110, 111, 112, 116, 117, 118, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 199
- Automotive Technology** 28, 59, 62A, 64, 66A, 66B, 69, 71A, 75, 79, 80, 95*
- Biological Sciences** 1, 2, 3, 4, 5, 6, 7A, 7B, 8A, 8B, 10, 11, 13, 14, 15, 16A through Z, 21, 22, 23, 24, 28, 30, 33, 35, 36, 55, 56, 56L, 95*
- Business** 1, 2, 3, 9, 19, 20, 28, 40, 41, 47, 48, 49, 55, 85, 95*, 100, 101, 102, 103, 115, 116, 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, 28, 31A, 70, 71, 72, 78, 79, 95*
- Computer Information Systems** 28, 30, 50, 62, 65, 67, 70, 80, 88, 90, 95*, 100, 120, 141, 142, 144, 145
- Computer Science** 10, 12, 13, 21, 26, 27, 28, 39, 46, 50, 52, 54, 55, 59P, 62, 63, 66, 76A, 79, 95*
- Construction and Energy Technology** 5, 7, 20, 22, 24, 26, 28, 34, 40, 42, 44, 95*
- Deaf Studies** 1, 2, 3, 4, 10, 28, 95*
- Drafting and Engineering Support** 1, 2, 5, 6, 10, 11, 12, 20, 21, 22, 28, 40, 95*
- Drama** 10A, 10B, 11, 13, 14, 15, 16A, 16B, 17, 19A, 19B, 20, 21, 22A, 22B, 22C, 22D, 23A, 23B, 23C, 23D, 28, 95*
- Earth Science** 1, 1L, 2, 3, 3L, 6, 7, 10, 10L, 14, 15, 15L, 16G, 28, 50, 54A through E, 55F, 56F, 95*, 301
- Economics** 1A, 1B, 28
- Education** 7, 10, 28, 95*
- Engineering** 10, 17, 17L, 22A, 22B, 28, 35, 37, 45, 95*, 150
- English** 1A, 1B, 1C, 2, 7, 11, 12, 16, 18, 19, 20, 21, 22, 24, 27, 28, 29, 30A, 30B, 32, 33, 34, 35, 37, 38, 40, 41, 42, 44, 45, 46A, 46B, 47A, 47B, 48

English as a Second Language 25G, 25L, 25W, 30C, 30R, 30W, 40L, 40W

Environmental Studies and Sustainability 1, 6, 7, 10, 13, 28, 95*

Fashion 1, 2, 3, 4A, 4B, 7, 8, 12, 14, 15, 28, 95*

Fire Technology 1, 3, 4, 5, 7, 8, 10, 28, 50, 73, 74, 75, 95*, 150, 151, 152, 154, 155, 157, 158, 165, 166, 167 (maximum 30 units of FIRE courses excluding 95)

French 1, 2, 3, 4, 28, 300F

Geography 1, 1L, 2, 3, 4, 5, 11, 12, 14, 15, 16, 28, 85, 86, 90, 91A, 91B, 92, 93, 94, 95*

German 1, 2, 28

Health Education 1, 2, 10

Health Sciences 3

History 4A, 4B, 17A, 17B, 18A, 18B, 19A, 19B, 20, 21 (not with 17A, 17B), 22, 23, 24, 27, 28, 50, 51, 95*

Human Development and Family 1, 2, 3, 4, 5, 7, 9, 10, 11, 12, 13, 14, 19, 21, 22, 23, 25, 28, 29, 30, 38, 40, 41, 43, 44, 46, 47, 61, 95*

Humanities 1, 2, 3, 5, 9, 10, 15, 17, 20, 21, 28, 30, 95*

Independent Study Any course numbered 28 (all baccalaureate level)

Interdisciplinary 10

Italian 1, 2, 3

Japanese 1, 2, 28

Lesbian, Gay, Bisexual and Transgender Studies 1, 2, 28, 95*

Library Science 10A, 10B, 20, 25, 28, 30, 40, 95*

Mathematics 8, 10, 12, 13, 15, 16A, 16B, 17, 18, 20, 24, 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, 9A, 9B, 10, 11, 12A, 12B, 13, 14, 15, 25, 28, 39A, 39B, 39C, 39D, 40A, 40B, 40C, 40D, 42, 46, 47, 48, 49, 50, 54, 57A, 57B, 58A, 58B

Nursing, Registered 17, 21, 22, 23, 24, 95*

Nutrition and Food Science 5, 10, 13, 14, 28, 95*

Personal Development 1, 6, 8, 9, 12, 21, 28, 52, 70, 94*

Philosophy 2, 4, 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, 90N, 90P, 90T, 92, 95*

Physical Education 3A, 3B, 5A, 5B, 6, 7, 8, 9, 10, 11, 13, 14, 16, 17, 19, 22, 23, 26, 27A, 27B, 28, 29, 30, 32, 35, 36, 39, 42, 51B, 51C, 51D, 53, 54, 55, 56A, 56B, 63, 66, 68, 69, 71, 72, 73, 74, 75, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89A, 89B, 89C, 89F, 89G, 93, 114, 200

Physics 10, 11, 28, 105, 105L, 110, 110L, 110R, 205, 205L, 210, 210L, 210R, 215, 215L, 215R

Political Science 1, 2, 3, 4, 7, 8, 9, 12, 16, 27, 28

Psychology 28, 100, 103, 104, 105, 106, 107, 108, 110, 127, 130, 140, 140L, 142, 150, 160, 170

Recreation Management 10, 20, 30, 40, 50, 51, 70, 71, 72, 95*

Skill Development 1, 10, 28

Social Science 10, 13, 20, 25, 28, 30, 35, 50, 300F, 300G

Sociology 1, 2, 3, 4, 5, 10, 15, 20, 24, 27, 28, 95*, 301

Spanish 1, 2, 3, 4, 15, 16, 17, 28

Welding Technology 10, 15, 28, 30, 50, 60, 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 2014-2015

Administration of Justice 50, 55, 58
Agriculture 28**, 156, 198, 200, 215, 221, 300**
Anthropology 1, 1L, 2, 4, 5, 6, 7, 9, 10, 14, 27, 28**, 300**
Applied Art and Design 12, 28**, 62, 70, 75
Art 1A, 1B, 1C, 1D, 1E, 1F, 1G, 2, 3, 4A, 4B, 5A, 5B, 6C, 7A, 7B, 8A, 8B, 9A, 9B, 10, 11, 12A, 12B, 17, 18A, 18B, 19, 20, 28**, 32, 40A, 40B, 52, 300**
Astronomy 2, 5, 7, 10, 11, 14, 25, 28**, 300**
Avionics 100*, 101*, 105*, 106*, 107*, 109*, 110*, 111*, 112*, 116*, 117*, 118*, 150*, 151*, 152*, 153*, 154*, 155*, 156*, 157*, 158*, 159*, 160*, 161*, 162*, 163*, 164*, 165*, 199* (*Any or all of these ATHL, PHED and RECM activity courses combined: maximum credit, 4 units)
Biological Sciences 1, 2 or 22, 3 or 33, 4*, 5*, 6*, 7A* & 7B*, 8A* & 8B*, 10*, 11*, 14, 15, 21, 28**, 30, 35, 55*, 56*, 56L*, 300** (maximum credit, 10 units from 5, 6, 7AB and 55), (7A & 7B must both be completed; 7A & 7B combined, equivalent to 5), (maximum credit, 5 units from 4 and 8AB), (8A & 8B must both be completed; 8A & 8B combined, equivalent to 4), (maximum credit, 4 units from 10, 11 and 56/56L; no credit for 11 or 56/56L if taken after 1)
Business 1, 2, 3, 20, 48, 49
Chemistry 1A*, 1B*, 2A*, 2B*, 3A* and 3B*, 5, 12A, 12B, 28** (maximum credit, 1 series 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, 8, 10, 12, 70, 71 (maximum credit, 1 course from 1 and 5)
Computer Science 10, 12, 13, 21, 26, 28**, 39, 46, 50, 54, 66, 76A, 300**
Deaf Studies 1, 2, 3, 4, 10, 28**, 300**
Drafting and Engineering Support 11
Drama 10A, 10B, 11, 13, 14, 15, 16A, 16B, 17, 19A, 19B, 20, 21, 22A, 22B, 22C, 22D, 23A, 23B, 23C, 23D, 28**, 300**
Earth Science 1, 1L, 2, 3, 3L, 7, 10, 10L, 14, 15, 15L, 28**, 300**
Economics 1A, 1B, 28**, 300**
Education 10
Engineering 10, 17, 17L, 22B, 28**, 35, 45, 150
English 1A, 1B, 1C, 2, 18, 19*, 20, 21, 24, 27, 28**, 29, 30A, 30B, 32, 33, 34, 35, 37*, 38*, 40, 41, 42, 46A, 46B, 47A, 47B, 48, 300** (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 and Sustainability 1, 6, 7, 10, 28**, 300**
Fashion 3
French 1, 2, 3, 4, 28**, 300**, 300F
Geography 1, 1L, 2, 3, 4, 5, 28**, 300**
German 1, 2, 28**
Health Education 1, 2
History 4A, 4B, 17A, 17B, 18A, 18B, 19A, 19B, 20, 21, 22, 23, 24, 27, 28**, 50, 51, 300**

Human Development and Family 1*, 4, 9*, 21, 22 (maximum credit, 1 course from 1 and 9)
Humanities 1, 2, 3, 5, 9, 10, 15, 17, 20, 21, 28**, 300**
Italian 1, 2, 3
Japanese 1, 2, 28**
Lesbian, Gay, Bisexual and Transgender Studies 1, 2, 28**, 300**
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 142), (maximum credit, 1 course from 15 and 20), (maximum credit, 1 course from 16A, 30 and 42), (maximum credit, 1 course from 16B and 31), (maximum credit, 1 course from 17 and 18)
Music 2, 3A, 3B, 4A, 4B, 6A, 6B, 9A, 9B, 10*, 11, 12A, 12B, 13, 28**, 39A, 39B, 39C, 39D, 40A, 40B, 40C, 40D, 42, 46, 47, 48, 49, 50, 54, 57A, 57B, 58A, 58B, 300** (no credit for 10 if taken concurrently with or after 3A, 3B or 6A, 6B)
Nutrition and 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
Physical Education 3A*, 3B*, 5A*, 5B*, 6*, 7*, 8*, 9*, 10*, 11*, 13*, 14*, 16*, 17*, 19*, 22*, 23*, 26*, 27A*, 27B*, 28**, 29*, 30*, 35, 36*, 39*, 42, 51B, 51C, 51D, 53, 54, 55*, 56A, 56B, 66*, 69*, 71*, 72*, 73*, 74*, 75*, 80*, 81, 83+, 84, 87*, 88+, 89A+, 89B+, 89C+, 89F+, 93*, 114*, 300** (*Any or all of these PHED, ATHL and RECM activity courses combined: maximum credit, 4 units), (+Any or all of these courses combined: maximum credit, 8 units)
Physics 10*, 11*, 28**, 105*, 105L*, 110*, 110L*, 110R*, 205*, 205L*, 210*, 210L*, 210R*, 215*, 215L*, 215R* (no credit for 10 or 11 if taken after 105 or 205) (maximum credit, 1 series from 105/110 and 205/210/215), (110R must be taken with 110), (210R must be taken with 210), (215R must be taken with 215)
Political Science 1, 2, 3, 4, 7, 8, 9, 12, 16, 27, 28**, 300**
Psychology 28**, 100, 103, 104, 105, 106, 107, 108, 110, 127, 130, 140, 140L, 142*, 160, 170, 300** (maximum credit, 1 course from PSYC 142 and MATH 13)
Recreation Management 70*, 71* (*Any or all of these RECM, ATHL and PHED activity courses combined: maximum credit, 4 units)
Social Science 10, 13, 20, 25, 28**, 30, 35, 50, 300**, 300F, 300G
Sociology 1, 2, 3, 4, 5, 10, 15, 20, 27, 28**, 300**
Spanish 1, 2, 3, 4, 17, 28**, 300**
Women and 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.

COURSE IDENTIFICATION NUMBERING SYSTEM (C-ID)

The Course Identification Numbering System (C-ID) is a statewide numbering system, signaling that participating California community colleges and universities have determined that courses offered by other California community colleges are comparable in content and scope to courses offered on their own campuses. The C-ID numbering system is useful for students attending more than one community college and is applied to many of the transferable courses students need as preparation for transfer. Students should always go to www.assist.org to confirm how each college's course will be accepted at a particular four-year college or university for transfer credit. Because these course requirements may change and because courses may be modified and qualified for or deleted from the C-ID database, students should always check with a counselor to determine how C-ID designated courses fit into their educational plans for transfer.

C-ID Number	Sierra College Course	C-ID Number	Sierra College Course	C-ID Number	Sierra College Course
ACCT 110	BUS 1 and BUS 2	ECE 210	HDEV 10	PHIL 100	PHIL 6
ACCT 120	BUS 3	ECE 220	HDEV 7	PHIL 120	PHIL 2
AJ 110	ADMJ 50	ECE 230	HDEV 25	PHIL 130	PHIL 20
AJ 120	ADMJ 55	ENGL 100	ENGL 1A	PHIL 140	PHIL 21
AJ 122	ADMJ 52	ENGL 105	ENGL 1C	PHIL 210	PHIL 12
AJ 124	ADMJ 56	ENGL 120	ENGL 1B	PHYS 105	PHYS 105 and PHYS 105L
AJ 140	ADMJ 54	ENGL 130	ENGL 30A	PHYS 110	PHYS 110 and PHYS 110L
AJ 160	ADMJ 58	ENGL 135	ENGL 30B	PHYS 205	PHYS 205 and PHYS 205L
AJ 200	ADMJ 62	ENGL 140	ENGL 47A	PHYS 210	PHYS 210 and PHYS 210L
AJ 220	ADMJ 57	ENGL 145	ENGL 47B	PHYS 215	PHYS 215 and PHYS 215L
ANTH 150	ANTH 5	ENGL 160	ENGL 46A	POLS 110	POLS 1
ARTH 110	ART 1A	ENGL 165	ENGL 46B	PSY 110	PSYC 100
ARTH 120	ART 1B and ART 1C	ENGL 180	ENGL 44	PSY 120	PSYC 107
ARTH 130	ART 1D	ENGL 200	ENGL 19	PSY 150	PSYC 140
ARTH 140	ART 1G	GEOG 111	GEOG 1L	PSY 170	PSYC 103
ARTS 110	ART 4A	GEOG 120	GEOG 2	PSY 205B	PSYC 105
ARTS 200	ART 5A	GEOG 125	GEOG 5	SOCI 110	SOC 1
ARTS 270	ART 6C	GEOG 130	GEOG 4	SOCI 115	SOC 2
ARTS 282	ART 32	GEOG 140	GEOG 3	SOCI 120	SOC 20
BUS 110	BUS 20	GEOG 155	GEOG 90	SOCI 125	SOC 15
BUS 115	BUS 102	GEOG 160	GEOG 11	SOCI 130	SOC 4
BUS 125	BUS 48	GEOG 160	GEOG 12	SOCI 140	SOC 27
BUS 140	CIS 62	GEOG 160	GEOG 14	SOCI 150	SOC 3
CDEV 100	HDEV 9	GEOG 160	GEOG 16	SPAN 200	SPAN 3
CDEV 110	HDEV 4	GEOL 100	ESCI 1	SPAN 210	SPAN 4
CHEM 102	CHEM 2B	GEOL 100L	ESCI 1L	THTR 111	DRMA 13
CHEM 150	CHEM 12A	GEOL 110	ESCI 3	THTR 151	DRMA 10A
CHEM 160S	CHEM 12A and CHEM 12B	GEOL 110L	ESCI 3L	THTR 152	DRMA 10B
COMM 110	COMM 1	GEOL 120	ESCI 10	THTR 191	DRMA 23A
COMM 120	COMM 2	GEOL 120L	ESCI 10L	THTR 191	DRMA 23B
COMM 130	COMM 8	GEOL 200	ESCI 2	THTR 191	DRMA 23C
COMM 140	COMM 3	HIST 180	HIST 4B	THTR 191	DRMA 23D
COMM 150	COMM 7	ITIS 120	CIS 62	THTR 192	DRMA 22A
COMM 180	COMM 10	JOUR 100	COMM 70	THTR 192	DRMA 22B
COMP 122	CSCI 12	JOUR 110	COMM 71	THTR 192	DRMA 22C
COMP 132	CSCI 13	JOUR 130	COMM 78	THTR 192	DRMA 22D
COMP 142	CSCI 39	JOUR 131	COMM 79		
COMP 152	CSCI 26	JOUR 170	COMM 12		
ECE 120	HDEV 2	JOUR 170	AAD 12		
ECE 130	HDEV 5	KIN 101	HED 1		
ECE 200	HDEV 3	MATH 230	MATH 32		

UNDERSTANDING COURSE DESCRIPTIONS



PHOTO BY DARYL STINGHER

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, generally 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). It may be completed only one time under either discipline.

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.

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 54-55 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 56 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.



PHOTO BY DAVID BLANCHARD

“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 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.

Course Identification Numbering System (C-ID)

The Course Identification Numbering System (C-ID) is a statewide numbering system independent from the course numbers assigned by local California community colleges. A C-ID number at the end of a course description signals that participating California community colleges and universities have determined that courses offered by other California community colleges are comparable in content and scope to courses offered on their own campuses, regardless of their unique titles or local course number. Thus, if a schedule of classes or catalog lists a course bearing a C-ID number, for example SOCI 110, students at that college can be assured that it will be accepted in lieu of a course bearing the C-ID SOCI 110 designation at another community college. In other words, the C-ID designation can be used to identify comparable courses at different community colleges. Students should always go to www.assist.org to confirm how each college’s course will be accepted at a particular four-year college or university for transfer credit.

The C-ID numbering system is useful for students attending more than one community college and is applied to many of the transferable courses students need as preparation for transfer. Because these course requirements may change and because courses may be modified and qualified for or deleted from the C-ID database, students should

always check with a counselor to determine how C-ID designated courses fit into their educational plans for transfer.

A list of approved C-ID courses as of May 2014 is available in this catalog. To see the most up-to-date list, please go to www.assist.org.

Independent Study Courses

28 INDEPENDENT STUDY:

Units: 1-3

Transferable to CSU, UC-with limitation*

Hours to Complete Course: 54 hours per unit

Independent study courses may be taken one time 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 an add code; (4) submitting the approved Independent Study Project form to a campus Admissions and 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. ■*

ACCOUNTING

(See Business)



ADMINISTRATION OF JUSTICE

BUSINESS AND TECHNOLOGY

DEAN: Sonja Lolland

ASSOCIATE DEAN: Darlene Jackson

DIVISION OFFICE: B 3

FACULTY COORDINATOR: N. Willick

AREA OFFICE: Room 217, Roseville Gateway Center, Phone (916) 781-6273

FACULTY: S. Linthicum, B. Spaulding

LIAISON COUNSELORS: T. Maddux, P. Neal

The Administration of Justice program offers students an Associate Degree for Transfer which prepares students for transfer into the California State University system. In addition, there are three associate degrees offered with specific areas of concentration. Each concentration has specific core courses that are required of all students. Courses are available in law enforcement, specializing in police activities including effective patrol services to the public; courts, specializing in responsibilities to the public through the trial system; corrections, where the deviant member of society is subjected to society's effort to change the deviant behavior; and in-service training courses certified by Police Officer Standards and Training (POST).

The Administration of Justice program offers a number of POST approved certificated police officer training programs. The department offers two of the three modules (ADMJ 115 and ADMJ 120) necessary to meet the training requirements to be a California Police Officer. Successful completion of these two modules allows students to be hired as Level II Reserve Police Officers.

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 FOR TRANSFER AS-T DEGREE

The Associate in Science in Administration of Justice for Transfer (AS-T) degree program allows students to recognize the importance of ethics and professionalism within the criminal justice field; analyze and apply legal principles to the daily operations of law enforcement, the courts and corrections; and analyze and critically evaluate information to solve problems within the criminal justice field.

The Associate in Science in Administration of Justice for Transfer degree (AS-T) prepares students to transfer into the CSU system to complete a bachelor's degree in Administration of Justice or a major deemed similar by a CSU campus. Students earning an associate degree for transfer and meeting the CSU minimum transfer admission requirements are guaranteed admission with junior standing to the CSU system, but not to a particular campus or major. Upon transfer, students will be required to complete no more than 60 additional prescribed units to earn a bachelor's degree.

To earn the Associate in Science in Administration of Justice for Transfer degree, students must complete 60 CSU-transferable semester units with a minimum grade point average of 2.0, including both of the following:

- completion of all courses required for the major with grades of "C" or better; and
- completion of the California State University General Education Breadth (CSU GE) pattern or the Intersegmental General Education Transfer Curriculum (IGETC) pattern.

It is highly recommended that, prior to transferring, students complete courses that satisfy the CSU United States History, Constitution and American Ideals graduation requirement. In all cases, students should consult with a counselor for more information on university admission and transfer requirements.

REQUIRED COURSES:

	UNITS
ADMJ 50 Introduction to Administration of Justice	3
ADMJ 55 Concepts of Criminal Law	3

PLUS 6 UNITS FROM:

ADMJ 52 Criminal Court Process	3
ADMJ 54 Introduction to Investigation	3
ADMJ 56 Introduction to Evidence	3
ADMJ 57 Juvenile Law and Procedure	3
ADMJ 58 Community and the Justice System	3
ADMJ 62 Introduction to Corrections	3

PLUS 6-7 UNITS FROM THE FOLLOWING OR ANY UNUSED COURSES FROM THE PRECEDING AREA:

PSYC 100 General Principles of Psychology	3
SOC 1 Introduction to Sociology	3
SOC 15 Introduction to Statistics in Sociology OR	
MATH 13 Elementary Statistics	3-4

TOTAL UNITS REQUIRED: 18-19

**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 the following major requirements with grades of "C" or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth pattern; or Intersegmental General Education Transfer Curriculum (IGETC).

REQUIRED COURSES:	UNITS
ADMJ 50 Introduction to Administration of Justice	3
ADMJ 54 Introduction to Investigation	3
ADMJ 55 Concepts of Criminal Law	3
ADMJ 56 Introduction to Evidence	3
ADMJ 58 Community and the Justice System	3
ADMJ 151 Administration of Justice Pathways	2

PLUS 6-9 UNITS FROM:

ADMJ 51 Traffic Investigations and Enforcement.	3
ADMJ 52 Criminal Court Process	3
ADMJ 53 Police Field Operations	3
ADMJ 57 Juvenile Law and Procedure	3
ADMJ 60 Defensive Tactics for Law Enforcement	1
ADMJ 61A Firearms Familiarization.	2
ADMJ 61B Advanced Firearms.	2
ADMJ 61C Firearms: Semi-automatics	2
ADMJ 61D Firearms Instructor.	2
ADMJ 61E Firearms Instructor POST	2.5
ADMJ 70 Substantive Law	3
ADMJ 72 Illegal Drugs—Recognition and Influence.	3
ADMJ 73 Writing for Criminal Justice	3
ADMJ 74 Computer Use in Criminal Justice.	3
ADMJ 75 Values and Ethics in Criminal Justice	3
ADMJ 76 Street and Prison Gangs	3
ADMJ 77 Terrorist Tactics and the Role of the First Responder . .	3
ADMJ 88 Computer Forensics (also CIS 88)	3
ADMJ 89 Fraud Examination	3
ADMJ 110 P.C. 832: Arrest and Control	2
ADMJ 112 P.C. 832: Firearms. . . . .	.5
ADMJ 115 POST Modular III Training	7
ADMJ 120 Post Modular II Training.	9
ADMJ 200 Family Violence: Spousal/Partner, Child and Elder Abuse.	3

TOTAL UNITS REQUIRED: 23-26

**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 the following major requirements with grades of "C" or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth pattern; or Intersegmental General Education Transfer Curriculum (IGETC).

REQUIRED COURSES:	UNITS
ADMJ 50 Introduction to Administration of Justice	3
ADMJ 52 Criminal Court Process	3
ADMJ 55 Concepts of Criminal Law	3
ADMJ 56 Introduction to Evidence	3
ADMJ 57 Juvenile Law and Procedure	3
ADMJ 151 Administration of Justice Pathways	2

PLUS 6 UNITS FROM:

ADMJ 70 Substantive Law	3
ADMJ 73 Writing for Criminal Justice	3
ADMJ 74 Computer Use in Criminal Justice.	3
ADMJ 75 Values and Ethics in Criminal Justice	3
ADMJ 77 Terrorist Tactics and the Role of the First Responder . .	3
ADMJ 200 Family Violence: Spousal/Partner, Child and Elder Abuse	3

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 the following major requirements with grades of "C" or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth pattern; or Intersegmental General Education Transfer Curriculum (IGETC).

REQUIRED COURSES:	UNITS
ADMJ 50 Introduction to Administration of Justice.	3
ADMJ 55 Concepts of Criminal Law	3
ADMJ 62 Introduction to Corrections	3
ADMJ 67 Managing the Adult Offender	3
ADMJ 76 Street and Prison Gangs	3
ADMJ 151 Administration of Justice Pathways	2

PLUS 6 UNITS FROM:

ADMJ 52 Criminal Court Process	3
ADMJ 56 Introduction to Evidence	3
ADMJ 60 Defensive Tactics for Law Enforcement	1

ADMJ 61A Firearms Familiarization.	2
ADMJ 61B Advanced Firearms.	2
ADMJ 69 Institutional Corrections and Casework.	3
ADMJ 70 Substantive Law	3
ADMJ 72 Illegal Drugs—Recognition and Influence.	3
ADMJ 73 Writing for Criminal Justice	3
ADMJ 74 Computer Use in Criminal Justice.	3
ADMJ 75 Values and Ethics in Criminal Justice	3
ADMJ 77 Terrorist Tactics and the Role of the First Responder . .	3
TOTAL UNITS REQUIRED: 23	

**RESERVE PEACE OFFICER
SKILLS CERTIFICATE**

Designed to give students basic support knowledge and abilities required to enter the law enforcement workforce as Reserve Peace Officers with or without obtaining an associate degree. The focus is on skills relative to the field of law enforcement. This skills certificate provides career technical skills; it is not equivalent to an associate degree.

REQUIRED COURSES:	UNITS
ADMJ 115 POST Modular III Training	7
ADMJ 120 POST Modular II Training	9
TOTAL UNITS REQUIRED: 16	

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. 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 sub-systems 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.(C-ID AJ 110) (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 COURT PROCESS

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. (C-ID AJ 122) (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; addresses the techniques, procedures and investigation of crime, including organization of crime scene searches and recording; collection and preservation of evidence; sources of information; surveillance; interview and interrogation; follow-up investigation; resources; scientific analysis of evidence, case preparation and the role of the investigator in the trial process. (C-ID AJ 140) (CSU)

ADMJ 55 CONCEPTS OF CRIMINAL LAW

Units: 3

Hours: 54 lecture

Historical development, philosophy of common and statutory law and constitutional provisions related to due process; definitions, classifications and general elements of crimes as applied to the administration of justice; legal research, review of case law, methodology and concepts of law as a social force and analysis of criminal liability, defense to crimes and the classification of crimes against persons, property, morals and public welfare. (C-ID AJ 120) (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. (C-ID AJ 124) (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. (C-ID AJ 220) (CSU)

ADMJ 58 COMMUNITY AND THE JUSTICE SYSTEM

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 system and members of the public. Methods for understanding how such a relationship is developed, changed and maintained. Examines the complex, dynamic relationship between communities and the justice system in addressing crime and conflict with an emphasis on the challenges and prospects of administering justice within a diverse multicultural population. (C-ID AJ 160) (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

Provides a history and critical analysis of the various types of punishment, alternatives to punishment and impact of punishment on the Criminal Justice System; explanations of criminal behavior; functions and objectives of the Criminal Justice System concerned with institutionalization, probation, parole and other sentencing alternatives; critical examination of the types of correctional institutions, their clients and contemporary correctional issues. (C-ID AJ 200) (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

Prerequisite: Completion of ADMJ 62 or 67 with grade of "C" or better

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 77 TERRORIST TACTICS AND THE ROLE OF THE FIRST RESPONDER

Units: 3

Hours: 54 lecture

Through the use of case studies, first responders gain knowledge and understanding of terrorist behavior, typologies of terrorism and extremism, its ideology and role in domestic and international terrorism, preventative measures, threat, vulnerability and risk assessment procedures, weaponry, post-blast issues and other concerns. (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 FAMILY VIOLENCE: SPOUSAL/PARTNER, CHILD AND ELDER ABUSE

Units: 3

Hours: 54 lecture

Covers historical, cultural, psychological and social precursors and effects of the three primary forms of domestic violence: spousal/partner, child and elder abuse. Responsibilities and roles of law enforcement, prosecution, court, corrections, medical and social service professionals are studied. Crisis intervention, multi-disciplinary investigation and interviewing, forensic examination and adjudication issues are addressed. Examines other legal issues including mandated reporting and protective orders and explores both prevention and intervention resources available in the community. (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; fire-arms; 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)



AGRICULTURE

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)

ADMJ 636 BASIC TRAFFIC COLLISION INVESTIGATION

Units: 1

Prerequisite: Completion of POST Basic Academy

Hours: 24 (18 lecture, 6 laboratory)

Designed to provide officer with basic traffic collision investigation, including knowledge and skills necessary to conduct traffic collisions investigations to develop reasonable cause for establishing fault pursuant to California Vehicle Code section 40600. (pass/no pass grading) (not degree applicable)

ADMJ 637 DRUG ABUSE RECOGNITION

Units: 1

Prerequisite: Completion of POST Basic Academy

Hours: 24 lecture

Provides officers with the knowledge and skills to recognize signs and symptoms of drug influence, the DAR 7-step system, drug trends, how drugs affect the central nervous system, drug laws, report preparation and expert court testimony. (pass/no pass grading) (not degree applicable)

SCIENCES AND MATHEMATICS

DEAN: Heather Roberts

ASSOCIATE DEAN: Michael Kane

DIVISION OFFICE: V 211

FACULTY: M. Macfarlane

LIAISON COUNSELORS: M. Braga, E. Farrelly

Sustainable agriculture is an integrated system of plant and animal production practices having a site-specific application that will, over the long-term, satisfy human food and fiber needs; enhance environmental quality and the natural resource base upon which the agriculture economy depends; make the most efficient use of nonrenewable resources and on-farm resources and integrate, where appropriate, natural biological cycles and controls; sustain the economic viability of farm operations and enhance the quality of life for farmers and society as a whole.

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.

SUSTAINABLE AGRICULTURE

A.S. DEGREE AND/OR CERTIFICATE OF ACHIEVEMENT (FORMERLY AGRICULTURE)

The Sustainable Agriculture major combines the skills and knowledge to incorporate economic viability, environmental stewardship and social responsibility in food and farming systems. 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. In all cases, students should consult with a counselor for more information on university admission and transfer requirements. For the degree, students must fulfill the following major requirements with grades of "C" or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth (CSU GE) pattern; or Intersegmental General Education Transfer Curriculum (IGETC). A certificate is designed to provide career technical skills; it is not equivalent to an associate degree.

REQUIRED COURSES:

UNITS

AGRI 156 Introduction to Plant Science (also BIOL 21)	4
AGRI 196 Introduction to Sustainable Agriculture.	3
AGRI 200 Introduction to Animal Science	4
AGRI 215 Introduction to Agricultural Business and Economics .	3
AGRI 221 Introduction to Soil Science	3

PLUS 6-8 UNITS FROM:

AGRI 95 Internship in Agriculture	1-4
AGRI 159 Integrated Pest Management	3

AGRI 160B Methods of Propagation.....	1
AGRI 164 Sustainable Tree Care	3
AGRI 198 Food, Society and the Environment.....	3
AGRI 203 Animal Feeds and Nutrition	4
AGRI 212 Direct Farm Marketing.....	2
TOTAL UNITS REQUIRED: 23-25	

SUSTAINABLE AGRICULTURE BUSINESS SKILLS CERTIFICATE

Designed to give students the small sustainable farm business management knowledge and abilities to successfully enter the workforce as a small farm owner or manager. This skills certificate focuses on skills and knowledge relative to the principles of agribusiness management, sustainable agriculture and direct farm marketing. This is a specialty certificate designed to provide career technical skills; it is not equivalent to an associate degree.

REQUIRED COURSES:	UNITS
AGRI 196 Introduction to Sustainable Agriculture.....	3
AGRI 212 Direct Farm Marketing.....	2
AGRI 215 Introduction to Agricultural Business and Economics .	3
BUS 140 Small Business Management	3
TOTAL UNITS REQUIRED: 11	

AGRICULTURE COURSES »

AGRI 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. See Independent Study page in catalog. (CSU, UC-with unit limitation)

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 156 INTRODUCTION TO 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)

Emphasizes 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 plant science with other life sciences and technology. Applies principles of plant science to agricultural systems. (CSU, UC)

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 160B METHODS OF PROPAGATION

Formerly known as HORT 134B

Units: 1

Hours: 54 laboratory

Provides an advanced level of skill, technique and experience in spring plant production. In-depth studies of propagation materials, sexual and asexual reproduction, transplanting and planting. Preparation and use of propagation and planting media. (not transferable)

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 196 INTRODUCTION TO SUSTAINABLE AGRICULTURE

Units: 3

Hours: 54 lecture

Introduction to the concepts and principles of agroecology as applied to the design and management of sustainable agricultural systems. Includes examination of case studies connecting sustainable agriculture principles to farming practices. (CSU)

AGRI 198 FOOD, SOCIETY AND THE ENVIRONMENT

Units: 3

Advisory: Eligibility for ENGL 1A or ESL 40W

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. (CSU, UC)

AGRI 200 INTRODUCTION TO ANIMAL SCIENCE

Units: 4

Advisory: Eligibility for ENGL 1A or ESL 40W

Hours: 108 (54 lecture, 54 laboratory)

An overview of the principles of animal science and the interrelationships of domestic animals and mankind. 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 212 DIRECT FARM MARKETING

Units: 2

Hours: 36 lecture

Overview of direct farm marketing. Includes innovative marketing alternatives for the small to medium size grower, proven methods of product development, promotion, pricing and distribution. (not transferable)

AGRI 215 INTRODUCTION TO AGRICULTURAL BUSINESS AND ECONOMICS

Units: 3

Advisory: Eligibility for ENGL 1A or ESL 40W

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 are 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

Hours: 90 (36 lecture, 54 laboratory)

Soils as natural bodies formed by interactive environmental processes, classification and characteristics. Soil 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 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: Rebecca Bocchicchio

ASSOCIATE DEANS: Anne Fleischmann, Susan Lucyga

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 FOR TRANSFER

AA-T DEGREE

Anthropology is the study of humans, past and present. To understand the full sweep and complexity of cultures across all of human history, anthropology draws and builds upon knowledge from the social and biological sciences as well as the humanities and physical sciences. A central concern of anthropologists is the application of knowledge to the solution of human problems. Historically, anthropologists in the United States have been trained in one of four areas: sociocultural anthropology, biological/physical anthropology, archaeology and linguistics. Anthropologists often integrate the perspectives of several of these areas into their research, teaching and professional lives.

The Associate in Arts in Anthropology for Transfer degree (AA-T) prepares students to transfer into the CSU system to complete a bachelor's degree in Anthropology or a major deemed similar by a CSU campus. Students earning an associate degree for transfer and meeting the CSU minimum transfer admission requirements are guaranteed admission with junior standing to the CSU system, but not to a particular campus or major. Upon transfer, students will be required to complete no more than 60 additional prescribed units to earn a bachelor's degree.

To earn the Associate in Arts in Anthropology for Transfer degree, students must complete 60 CSU-transferable semester units with a minimum grade point average of 2.0, including both of the following:

- completion of all courses required for the major with grades of "C" or better; and
- completion of the California State University General Education Breadth (CSU GE) pattern or the Intersegmental General Education Transfer Curriculum (IGETC) pattern.

It is highly recommended that, prior to transferring, students com-

plete courses that satisfy the CSU United States History, Constitution and American Ideals graduation requirement. In all cases, students should consult with a counselor for more information on university admission and transfer requirements.

REQUIRED COURSES:

UNITS

ANTH 1 Physical Anthropology	3
ANTH 2 Cultural Anthropology	3
ANTH 5 Introduction to Archaeology	3

PLUS 3-4 UNITS FROM:

ANTH 1L Physical Anthropology Laboratory	1
ANTH 6 Introduction to Linguistic Anthropology	3
MATH 13 Elementary Statistics OR	
SOC 15 Introduction to Statistics in Sociology	3-4

PLUS 3-4 UNITS FROM THE FOLLOWING OR ANY UNUSED COURSES FROM THE PRECEDING AREA:

ESCI 1 Physical Geology AND	
ESCI 1L Physical Geology Laboratory	4
ESCI 10 Introduction to Earth Science AND	
ESCI 10L Introduction to Earth Science Laboratory	4
PHIL 65 Introduction to the Philosophy of Science	3

PLUS 3-4 UNITS FROM THE FOLLOWING OR ANY UNUSED COURSES FROM THE PRECEDING AREAS:

ANTH 4 Native Peoples of North America	3
ANTH 7 Native Peoples of California	3
ANTH 9 Magic, Witchcraft, Ritual, Myth and Religion	3
ANTH 10 Introduction to Forensic Anthropology	3
ANTH 12 Anthropology of Games and Play	3
ANTH 14 Globalization Studies	3
ANTH 27 Anthropology of Sex, Gender and Sexuality	3

TOTAL UNITS REQUIRED: 18-21

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 with grade of "C" or better 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)

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, power, kinship, gender, sexuality, ethnicity, ecology, economics, politics, religion and ritual. Explores cultural change. Addresses the contemporary relevance of cultural anthropology. (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. (C-ID ANTH 150) (CSU, UC)

ANTH 6 INTRODUCTION TO LINGUISTIC ANTHROPOLOGY

Units: 3

Advisory: Completion of ENGL 1A with grade of "C" or better

Hours: 54 lecture

Exploration of the role of language in social interaction and world view. Examines minority languages, dialects, bilingualism, literacy and social influences on language change. Introduction and application of analytical techniques of linguistics and demonstration of their relevance to language in sociocultural issues. (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. Field trips may be required. (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 ANTHROPOLOGY OF SEX, GENDER AND SEXUALITY

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 might include, but is not limited to, research papers, special subject area projects and research projects. 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: Rebecca Bocchicchio

ASSOCIATE DEANS: Anne Fleischmann, Susan Lucyga

DIVISION OFFICE: W 107

FACULTY: T. Fillebrown, R. Gregg, N. Rische, R. Snook

LIAISON COUNSELORS: N. Martinis, 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 AND 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. In all cases, students should consult with a counselor for more information on university admission and transfer requirements. Students must fulfill the following major requirements with grades of "C" or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth pattern; or Intersegmental General Education Transfer Curriculum (IGETC).

REQUIRED COURSES

12 UNITS FROM:

AAD 12 Visual Communication (also COMM 12)	3
AAD 70 Introduction to Digital Design	3
AAD 75 Introduction to Digital Imaging (also PHOT 75)	3
AAD 44 Sketching for Design OR	
ART 4A Drawing I	3
ART 2 Two-Dimensional Design Foundations OR	
ART 6C Color Theory.	3

PLUS 9 UNITS FROM:

AAD 52 Publication Design I	3
AAD 53 Publication Design II	3
AAD 54 Typography	3
AAD 60 Graphic Design: Principles and Process	3
AAD 61 Graphic Design II: Digital Design and Production	3
AAD 62 Graphic Computer Illustration.	3

PLUS 3-4 UNITS FROM THE FOLLOWING, OR UNUSED COURSES FROM PRECEDING REQUIREMENTS:

AAD 20 Portfolio Development and Presentation.	3
AAD 28 Independent Study.	1-3
AAD 30 Photographing Works of Art (also PHOT 30). . . . .	.5
AAD 73 Digital Art Studio: Concepts and Practices (also ART 73)	3
AAD 85 Introduction to Web Design.	3
AAD 86 Intermediate Web Design	3
AAD 90 Interactivity and Animation for the Web.	4
AAD 95 Internship in Applied Art and Design . . . . .	.5-3
PHOT 60A Elementary Photography OR	
PHOT 80 Color Photography	2-3

TOTAL UNITS REQUIRED: 24-25

**APPLIED ART AND 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. In all cases, students should consult with a counselor for more information on university admission and transfer requirements. Students must fulfill the following major requirements with grades of "C" or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth pattern; or Intersegmental General Education Transfer Curriculum (IGETC).

**REQUIRED COURSES
12 UNITS FROM:**

AAD 12 Visual Communication (also COMM 12)	3
AAD 70 Introduction to Digital Design	3
AAD 75 Introduction to Digital Imaging (also PHOT 75)	3
AAD 44 Sketching for Design OR	
ART 4A Drawing I	3
ART 2 Two-Dimensional Design Foundations OR	
ART 6C Color Theory	3

PLUS 9 UNITS FROM:

AAD 55 Illustration (also ART 55)	3
AAD 62 Graphic Computer Illustration	3
AAD 71 Introduction to Digital Painting (also ART 71)	3
AAD 73 Digital Art Studio: Concepts and Practices (also ART 73)	3
AAD 76 Advanced Projects in Digital Imaging (also PHOT 76) ..	3
AAD 83 Introduction to Three-Dimensional Modeling	3
ART 4B Drawing II OR	
ART 5A Figure Drawing I	3

**PLUS 3 UNITS FROM THE FOLLOWING, OR UNUSED
COURSES FROM PRECEDING REQUIREMENTS:**

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

TOTAL UNITS REQUIRED: 24

**APPLIED ART AND 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 on-line web designers. This option also prepares students for transfer to a four-year college program in Multimedia. In all cases, students should consult with a counselor for more information on university admission and transfer requirements. Students must fulfill the following major requirements with grades of "C" or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth pattern; or Intersegmental General Education Transfer Curriculum (IGETC).

**REQUIRED COURSES
12 UNITS FROM:**

AAD 12 Visual Communication (also COMM 12)	3
AAD 70 Introduction to Digital Design	3
AAD 75 Introduction to Digital Imaging (also PHOT 75)	3
AAD 44 Sketching for Design OR	
ART 4A Drawing I	3
ART 2 Two-Dimensional Design Foundations OR	
ART 6C Color Theory	3

PLUS 9-11 UNITS FROM:

AAD 79 Introduction to Video Production (also COMM 31A) ...	3
AAD 80 Introduction to Video Editing	4
AAD 83 Introduction to Three-Dimensional Modeling	3
AAD 85 Introduction to Web Design	3
AAD 86 Intermediate Web Design	3
AAD 90 Interactivity and Animation for the Web	4

**PLUS 3 UNITS FROM THE FOLLOWING, OR UNUSED
COURSES FROM PRECEDING REQUIREMENTS:**

AAD 28 Independent Study	1-3
AAD 54 Typography	3
AAD 60 Graphic Design: Principles and Process	3
AAD 62 Graphic Computer Illustration	3
AAD 71 Introduction to Digital Painting (also ART 71)	3
AAD 73 Digital Art Studio: Concepts and Practices (also ART 73)	3
AAD 76 Advanced Projects in Digital Imaging (also PHOT 76) ..	3
AAD 95 Internship in Applied Art and Design .....	.5-3
ART 5A Figure Drawing I	3
BUS 122 Marketing in the Digital Age	3
CSCI 62 Web Programming I	3
CSCI 63 Web Programming II	3

UNITS REQUIRED: 24-26

APPLIED ART AND DESIGN— GRAPHIC DESIGN CONCENTRATION CERTIFICATE OF ACHIEVEMENT

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 associate degree.

REQUIRED COURSES

12 UNITS FROM:

AAD 12 Visual Communication (also COMM 12)	3
AAD 70 Introduction to Digital Design	3
AAD 75 Introduction to Digital Imaging (also PHOT 75)	3
AAD 44 Sketching for Design OR	
ART 4A Drawing I	3
ART 2 Two-Dimensional Design Foundations OR	
ART 6C Color Theory	3

PLUS 12 UNITS FROM:

AAD 52 Publication Design I	3
AAD 53 Publication Design II	3
AAD 54 Typography	3
AAD 60 Graphic Design: Principles and Process	3
AAD 61 Graphic Design II: Digital Design and Production	3
AAD 62 Graphic Computer Illustration	3

PLUS 8-10 UNITS FROM THE FOLLOWING, OR UNUSED COURSES FROM PRECEDING REQUIREMENTS:

AAD 20 Portfolio Development and Presentation	3
AAD 28 Independent Study	1-3
AAD 30 Photographing Works of Art (also PHOT 30) . . . . .	.5
AAD 73 Digital Art Studio: Concepts and Practices (also ART 73)	3
AAD 85 Introduction to Web Design	3
AAD 90 Interactivity and Animation for the Web	4
AAD 95 Internship in Applied Art and Design . . . . .	.5-3
PHOT 60A Elementary Photography OR	
PHOT 80 Color Photography	2-3

TOTAL UNITS REQUIRED: 32-34

APPLIED ART AND DESIGN— ILLUSTRATION CONCENTRATION CERTIFICATE OF ACHIEVEMENT

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 associate degree.

REQUIRED COURSES

12 UNITS FROM:

AAD 12 Visual Communication (also COMM 12)	3
AAD 70 Introduction to Digital Design	3
AAD 75 Introduction to Digital Imaging (also PHOT 75)	3
AAD 44 Sketching for Design OR	
ART 4A Drawing I	3
ART 2 Two-Dimensional Design Foundations OR	
ART 6C Color Theory	3

PLUS 12 UNITS FROM:

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 II OR	
ART 5A Figure Drawing I	3

PLUS 8-9 UNITS FROM THE FOLLOWING, OR UNUSED COURSES FROM PRECEDING REQUIREMENTS:

AAD 20 Portfolio Development and Presentation	3
AAD 28 Independent Study	1-3
AAD 30 Photographing Works of Art (also PHOT 30) . . . . .	.5
AAD 60 Graphic Design: Principles and Process	3
AAD 73 Digital Art Studio: Concepts and Practices (also ART 73)	3
AAD 85 Introduction to Web Design	3
AAD 95 Internship in Applied Art and Design . . . . .	.5-3
ART 7A Oil Painting I OR	
ART 8A Watercolor Painting I	3
PHOT 60A Elementary Photography OR	
PHOT 80 Color Photography	2-3
PHOT 78 Digital Photography	3

TOTAL UNITS REQUIRED: 32-33

APPLIED ART AND DESIGN— MULTIMEDIA CONCENTRATION CERTIFICATE OF ACHIEVEMENT

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 associate degree.

REQUIRED COURSES

12 UNITS FROM:

AAD 12 Visual Communication (also COMM 12)	3
AAD 70 Introduction to Digital Design	3
AAD 75 Introduction to Digital Imaging (also PHOT 75)	3
AAD 44 Sketching for Design OR	
ART 4A Drawing I	3
ART 2 Two-Dimensional Design Foundations OR	
ART 6C Color Theory	3

PLUS 12-14 UNITS FROM:

AAD 79 Introduction to Video Production (also COMM 31A)	3
AAD 80 Introduction to Video Editing	4
AAD 83 Introduction to Three-Dimensional Modeling	3
AAD 85 Introduction to Web Design	3
AAD 86 Intermediate Web Design	3
AAD 90 Interactivity and Animation for the Web	4

PLUS 8-9 UNITS FROM THE FOLLOWING, OR UNUSED COURSES FROM PRECEDING REQUIREMENTS:

AAD 28 Independent Study	1-3
AAD 54 Typography	3
AAD 60 Graphic Design: Principles and Process	3
AAD 62 Graphic Computer Illustration	3
AAD 71 Introduction to Digital Painting (also ART 71)	3
AAD 73 Digital Art Studio: Concepts and Practices (also ART 73)	3
AAD 76 Advanced Projects in Digital Imaging (also PHOT 76)	3
AAD 95 Internship in Applied Art and Design . . . . .	.5-3
ART 5A Figure Drawing I	3
BUS 122 Marketing in the Digital Age	3
CSCI 62 Web Programming I	3
CSCI 63 Web Programming II	3

TOTAL UNITS REQUIRED: 32-35

DIGITAL ILLUSTRATION SKILLS CERTIFICATE

Designed for students interested in becoming proficient in illustration. Valuable for those preparing for careers in illustration, animation and gaming, or for those upgrading their skills. This is a specialty skills certificate designed to provide career technical skills; it is not equivalent to an associate degree.

REQUIRED COURSES:

UNITS

AAD 44 Sketching for Design OR	
ART 4A Drawing I	3
AAD 55 Illustration (also ART 55)	3
AAD 62 Graphic Computer Illustration	3
AAD 71 Introduction to Digital Painting (also ART 71)	3

TOTAL UNITS REQUIRED: 12

GRAPHIC DESIGN SKILLS CERTIFICATE

Designed for students interested in becoming proficient with design concepts, software and image manipulation related to creating print and publication design. Valuable for those preparing for a career as a graphic designer, or for those upgrading their skills. This is a specialty skills certificate designed to provide career technical skills for print design and publication software; it is not equivalent to an associate degree.

REQUIRED COURSES:

UNITS

AAD 52 Publication Design I	3
AAD 60 Graphic Design: Principles and Process	3
AAD 70 Introduction to Digital Design	3
AAD 75 Introduction to Digital Imaging (also PHOT 75)	3

TOTAL UNITS REQUIRED: 12

VIDEO PRODUCTION AND EDITING SKILLS CERTIFICATE

Designed for students interested in becoming proficient with video production and editing techniques, software and computer manipulation related to time-based media. Valuable for those preparing for a career in the video industry, or for those upgrading their skills. This is a specialty skills certificate designed to provide career technical skills; it is not equivalent to an associate degree.

REQUIRED COURSES:

UNITS

AAD 44 Sketching for Design OR	
ART 4A Drawing I	3
AAD 75 Introduction to Digital Imaging (also PHOT 75)	3
AAD 79 Introduction to Video Production (also COMM 31A)	3
AAD 80 Introduction to Video Editing	4

TOTAL UNITS REQUIRED: 13

VISUAL ARTS AND MEDIA SKILLS CERTIFICATE

Designed for students interested in understanding visual media and becoming proficient in techniques for conceptualizing and creating visual images. Valuable for those preparing for a career in the visual arts and media, providing knowledge and technical skills applicable to digital art and design, communication studies, business and marketing, or for those upgrading their skills. This is a specialty skills certificate designed to provide career technical skills; it is not equivalent to an associate degree.

REQUIRED COURSES:	UNITS
AAD 12 Visual Communication (also COMM 12)	3
AAD 44 Sketching for Design OR	
ART 4A Drawing I	3
AAD 70 Introduction to Digital Design	3
PHOT 60A Elementary Photography	3
TOTAL UNITS REQUIRED: 12	

WEB DESIGN SKILLS CERTIFICATE

Intended for students interested in becoming proficient with software and technologies for creating webpage design. Valuable for those preparing for a career as a web designer, or for those upgrading their skills. This is a specialty skills certificate designed to provide career technical skills; it is not equivalent to an associate degree.

REQUIRED COURSES:	UNITS
AAD 62 Graphic Computer Illustration	3
AAD 75 Introduction to Digital Imaging (also PHOT 75)	3
AAD 85 Introduction to Web Design	3
AAD 90 Interactivity and Animation for the Web	4
TOTAL UNITS REQUIRED: 13	

APPLIED ART AND 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, mass media and persuasion. Historical overview of visual media as well as current trends and technology. (C-ID JOUR 170) (CSU, UC)

AAD 20 PORTFOLIO DEVELOPMENT AND PRESENTATION

Units: 3

Advisory: Completion of AAD 70, 75, or 85 with grade of "C" or better

Hours: 72 (36 lecture, 36 activity)

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 create and present both a print and digital 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. 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 digital files, prints, or slides for cataloging, portfolios, or publication. Covers equipment needed for both artificial and natural light situations, camera considerations, proper exposure and presentation of copy work for both two-dimensional and three-dimensional art. Students must furnish digital or film camera, processing, storage and presentation materials. (CSU)

AAD 44 SKETCHING FOR DESIGN

Units: 3

Hours: 72 (36 lecture, 36 activity)

Introduction to concept sketching techniques for design, illustration, photography and multimedia utilizing a variety of drawing media and creative problem solving concepts. Emphasis on developing visual communication skills for advertising, graphics, illustration, product design and storyboarding for time-based media. (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. (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. (CSU)

AAD 54 TYPOGRAPHY

Units: 3

Prerequisite: Completion of one of the following with grade of "C" or better: AAD 52, 53, 61, 62, or 75

Advisory: Completion of AAD 60 with grade of "C" or better

Hours: 72 (36 lecture, 36 activity)

A professional and historical approach to understanding typographic principles and form, effects of type on the style and communication in print and screen. Includes study of 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 publications and screen environments, hand drawn and computer generated typed forms. (CSU)

AAD 55 ILLUSTRATION

Also known as ART 55

Units: 3

Prerequisite: Completion of one of the following courses with grade of "C" or better: AAD 44, 60, 62, 75 or 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, pricing and contracts and presentation of finished artwork. (CSU)

AAD 60 GRAPHIC DESIGN: PRINCIPLES AND PROCESS

Units: 3

Advisory: Completion of AAD 44, AAD 70, ART 4A, or ART 6A with grade of "C" or better

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. (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. (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. (CSU, UC)

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 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. (CSU, UC)

AAD 71 INTRODUCTION TO DIGITAL PAINTING

Also known as ART 71

Units: 3

Prerequisite: Completion of AAD 44 or ART 4A with grade of "C" or better

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. (CSU)

AAD 73 DIGITAL ART STUDIO: CONCEPTS AND PRACTICES

Also known as ART 73

Units: 3

Prerequisite: Completion of ART 4A or AAD 44 with grade of "C" or better

Advisory: Completion of AAD 70 with grade of "C" or better

Hours: 90 (36 lecture, 54 laboratory)

Introduction to the tools, concepts and processes for digital art creation with an emphasis on experimental animation, video, mixed media, digital imaging, installation and new genres. Topics include integration of traditional design, color and compositional principles with contemporary digital tools in an art studio context. (CSU)

AAD 75 INTRODUCTION TO DIGITAL IMAGING

Also known as PHOT 75

Units: 3

Advisory: Completion of AAD 70 with grade of "C" or better

Hours: 72 (36 lecture, 36 activity)

Introduction to the acquisition and computer manipulation of photographs for design and photography. Analysis and critique of images from initial concept to final project creation. Basic scanning, image adjustments, retouching, compositing and file preparation for printing and other uses. (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. (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. (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. (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. (CSU)



ART

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. (CSU)

AAD 86 INTERMEDIATE WEB DESIGN

Units: 3

Prerequisite: Completion of AAD 85 with grade of "C" or better

Hours: 90 (36 lecture, 54 laboratory)

Intermediate course in front-end web design. Current topics in website creation covered as they relate to visual design and user interfaces such as strategies for combining layout, graphics, text, typography and interactivity in fully functioning websites. Special topics include coverage of industry standards and current technologies. (CSU)

AAD 90 INTERACTIVITY AND ANIMATION FOR THE WEB

Units: 4

Prerequisite: Completion of AAD 70 with grade of "C" or better

Hours: 108 (54 lecture, 54 laboratory)

Introduction to interactive, multimedia authoring and animation for the Web. 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 create original, interactive multimedia projects appropriate for CD and World Wide Web presentation. (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)

LIBERAL ARTS

DEAN: Rebecca Bocchicchio

ASSOCIATE DEANS: Anne Fleischmann, Susan Lucyga

DIVISION OFFICE: W 107

FACULTY: B. Chapman, S. Escobar, J. Keating, P. Marasso, C. O'Connor, S. Tubiolo

LIAISON COUNSELORS: M. Braga, M. Moon

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 HISTORY FOR TRANSFER

AA-T DEGREE

Art History is a program that provides students with an understanding of the history of visual arts and architecture. The program curriculum introduces students to the different art historical methodologies that shape the study of art 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.

The Associate in Arts in Art History for Transfer degree (AA-T) prepares students to transfer into the CSU system to complete a bachelor's degree in Art History or a major deemed similar by a CSU campus. Students earning an associate degree for transfer and meeting the CSU minimum transfer admission requirements are guaranteed admission with junior standing to the CSU system, but not to a particular campus or major. Upon transfer, students will be required to complete no more than 60 additional prescribed units to earn a bachelor's degree.

To earn the Associate in Arts in Art History for Transfer degree, students must complete 60 CSU-transferable semester units with a minimum grade point average of 2.0, including both of the following:

- completion of all courses required for the major with grades of "C" or better; and
- completion of the California State University General Education Breadth (CSU GE) pattern or the Intersegmental General Education Transfer Curriculum (IGETC) pattern.

It is highly recommended that, prior to transferring, students complete courses that satisfy the CSU United States History, Constitution and American Ideals graduation requirement. In all cases, students

should consult with a counselor for more information on university admission and transfer requirements.

REQUIRED COURSES:	UNITS
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 4A Drawing I	3

PLUS 3 UNITS FROM THE FOLLOWING ART HISTORY COURSES:

ART 1D History of Asian Art	3
ART 1F History of Islamic Art	3
ART 1G History of the Arts of Africa, the Americas and Oceania .	3

PLUS 3 UNITS FROM THE FOLLOWING COURSES OR UNUSED COURSE FROM THE PRECEDING AREA:

ART 1E History of Women in Art	3
ART 11 History and Aesthetics of Photography (also PHOT 10) .	3

PLUS 3 UNITS FROM THE FOLLOWING STUDIO ARTS COURSES:

ART 2 Two-Dimensional Design Foundations	3
ART 3 Three-Dimensional Design Foundations	3
ART 6C Color Theory	3
ART 7A Oil Painting I	3
ART 12A Sculpture I	3
ART 18A Ceramics I	3
ART 40A Printmaking I	3
ART 73 Digital Art Studio: Concepts and Practices (also AAD 73)	3
PHOT 60A Elementary Photography	3

TOTAL UNITS REQUIRED: 21

**STUDIO ARTS FOR TRANSFER
AA-T DEGREE**

Studio Arts is a program that provides students with broad exposure to the visual arts through basic requirements in two and three-dimensional studio and art history. Program curriculum introduces students to the fundamental concerns of art, including lab and material safety, visual literacy, design, problem solving and critical thinking. Through various hands on projects, students develop the skills necessary to approach problems, analyze constraints and requirements and use appropriate techniques to invent creative solutions in a variety of media.

The Associate in Arts in Studio Arts for Transfer degree (AA-T) prepares students to transfer into the CSU system to complete a bachelor's degree in Studio Arts or a major deemed similar by a CSU campus. Students earning an associate degree for transfer and meeting the CSU minimum transfer admission requirements are guaranteed admission with junior standing to the CSU system, but not to a particular campus or major. Upon transfer, students will be required to complete no more than 60 additional prescribed units to earn a bachelor's degree.

To earn the Associate in Arts in Studio Arts for Transfer degree, students must complete 60 CSU-transferable semester units with a minimum grade point average of 2.0, including both of the following:

- completion of all courses required for the major with grades of "C" or better; and
- completion of the California State University General Education Breadth (CSU GE) pattern or the Intersegmental General Education Transfer Curriculum (IGETC) pattern.

It is highly recommended that, prior to transferring, students complete courses that satisfy the CSU United States History, Constitution and American Ideals graduation requirement. In all cases, students should consult with a counselor for more information on university admission and transfer requirements.

REQUIRED COURSES:	UNITS
ART 1B History of Renaissance to Mid-Nineteenth Century Art . .	3
ART 1C History of Modern to Contemporary Art	3
ART 2 Two-Dimensional Design Foundations	3
ART 3 Three-Dimensional Design Foundations	3
ART 4A Drawing I	3

PLUS 3 UNITS FROM:

ART 1A History of Prehistoric through Gothic Art	3
ART 1D History of Asian Art	3
ART 1G History of the Arts of Africa, the Americas and Oceania .	3

PLUS 9 UNITS FROM:

ART 4B Drawing II OR	
ART 5A Figure Drawing I	3
ART 6C Color Theory	3
ART 7A Oil Painting I OR	
ART 8A Watercolor Painting I OR	
ART 9A Acrylic Painting I	3
ART 12A Sculpture I OR	
ART 17 Ceramic Sculpture/Handbuilding	3
ART 18A Ceramics I	3
ART 22 Creative Design in Metal	3
ART 32 Introduction to Fiber Arts OR	
ART 41 Introduction to Jewelry and Metalsmithing	3
ART 40A Printmaking I	3
ART 73 Digital Art Studio: Concepts and Practices (also AAD 73)	3
PHOT 60A Elementary Photography	3
ART 5B Figure Drawing II OR	
ART 7B Oil Painting II OR	
ART 8B Watercolor Painting II OR	
ART 12B Sculpture II OR	
ART 18B Ceramics II OR	
ART 19 Figure Sculpture OR	
ART 20 Raku Ceramics OR	
ART 40B Printmaking II	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 more information on university admission and transfer requirements. Students must fulfill the following major requirements with grades of "C" or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth (CSU GE) pattern; or Intersegmental General Education Transfer Curriculum (IGETC).

REQUIRED COURSES:	UNITS
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 4A Drawing I	3

PLUS 6 UNITS FROM:

ART 1D History of Asian Art	3
ART 1E History of Women in Art	3
ART 1F History of Islamic Art	3
ART 1G History of the Arts of Africa, the Americas and Oceania .	3
ART 11 History and Aesthetics of Photography (also PHOT 10) .	3

PLUS 3 UNITS FROM:

ART 2 Two-Dimensional Design Foundations	3
ART 3 Three-Dimensional Design Foundations	3
ART 6C Color Theory.	3
ART 7A Oil Painting I	3
ART 12A Sculpture I	3
ART 18A Ceramics I	3
ART 40A Printmaking I	3
ART 73 Digital Art Studio: Concepts and Practices (also AAD 73)	3
PHOT 60A Elementary Photography	3

TOTAL UNITS REQUIRED: 21

**STUDIO ART
A.A. DEGREE
(FORMERLY ART)**

The A.A. program in Studio 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. In all cases, students should consult with a counselor for more information on university admission and transfer requirements. Students must fulfill the following major requirements with grades of "C" or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth (CSU GE) pattern; or Intersegmental General Education Transfer Curriculum (IGETC).

REQUIRED COURSES:	UNITS
ART 1B History of Renaissance to Mid-Nineteenth Century Art . .	3
ART 1C History of Modern to Contemporary Art	3
ART 2 Two-Dimensional Design Foundations	3
ART 3 Three-Dimensional Design Foundations	3
ART 4A Drawing I	3

PLUS 3 UNITS FROM:

ART 1A History of Prehistoric through Gothic Art	3
ART 1D History of Asian Art	3
ART 1E History of Women in Art	3
ART 1F History of Islamic Art	3
ART 1G History of the Arts of Africa, the Americas and Oceania .	3

PLUS 9 UNITS FROM:

ART 4B Drawing II.	3
ART 5A Figure Drawing I	3
ART 5B Figure Drawing II	3
ART 6C Color Theory.	3
ART 7A Oil Painting I	3
ART 7B Oil Painting II	3
ART 8A Watercolor Painting I	3
ART 8B Watercolor Painting II	3
ART 9A Acrylic Painting I	3
ART 9B Acrylic Painting II	3
ART 12A Sculpture I	3
ART 12B Sculpture II.	3
ART 17 Ceramic Sculpture/Handbuilding.	3
ART 18A Ceramics I	3
ART 18B Ceramics II	3
ART 19 Figure Sculpture	3
ART 20 Raku Ceramics	3
ART 22 Creative Design in Metal	3
ART 24 Advanced Art Metal Design	3
ART 28 Independent Study	1-3
ART 32 Introduction to Fiber Arts	3

ART 33 Art Metal Casting	3
ART 34 Collage and Assemblage.....	3
ART 40A Printmaking I.....	3
ART 40B Printmaking II	3
ART 41 Introduction to Jewelry and Metalsmithing.....	3
ART 52 Portrait Drawing and Painting	3
ART 55 Illustration (also AAD 55) OR	
ART 71 Introduction to Digital Painting (also AAD 71) OR	
AAD 20 Portfolio Development and Presentation OR	
AAD 90 Interactivity and Animation for the Web OR	
PHOT 60B Intermediate Photography	3-4
TOTAL UNITS REQUIRED: 27	

(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. (C-ID ARTH 110) (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. (combined with ART 1C, C-ID ARTH 120) (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. (combined with ART 1B, C-ID ARTH 120) (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. (C-ID ARTH 130) (CSU, UC)

ART 1E HISTORY OF WOMEN IN ART

Units: 3

Hours: 54 lecture

Women in the arts in western civilization including their influence as artists and patrons as well as representations of women from Antiquity to the present. (CSU, UC)

ART 1F HISTORY OF 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. (C-ID ARTH 140) (CSU, UC)

ART 2 TWO-DIMENSIONAL DESIGN FOUNDATIONS

Formerly known as ART 6A

Units: 3

Hours: 90 (36 lecture, 54 laboratory)

Introduction to the concepts, applications and historical references related to two-dimensional art and composition, including the study of the basic principles and elements of line, shape, texture, value, color, proportion and spatial illusion. Students develop a visual vocabulary for creative expression through lecture presentations, studio projects, problem solving and written assignments. (CSU, UC)

ART 3 THREE-DIMENSIONAL DESIGN FOUNDATIONS

Units: 3

Hours: 90 (36 lecture, 54 laboratory)

Introduction to the concepts, applications and historical references related to three-dimensional design and spatial composition, including the study of the elements of art and principles of design as they apply to three-dimensional space and form. Development of visual vocabulary for creative expression through lecture presentations and use of appropriate materials for non-representational three-dimensional studio projects. (CSU, UC)

ART 4A DRAWING I

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 including pencil, charcoal and ink. References to various historical and cultural styles and techniques. (C-ID ARTS 110) (CSU, UC)

ART 4B DRAWING II

Units: 3

Prerequisite: Completion of ART 4A with grade of "C" or better

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 studied with reference to various historical and cultural styles and techniques. (CSU, UC)

ART 5A FIGURE DRAWING I

Units: 3

Prerequisite: Completion of ART 4A with grade of "C" or better

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. (C-ID ARTS 200) (CSU, UC)

ART 5B FIGURE DRAWING II

Units: 3

Prerequisite: Completion of ART 5A with grade of "C" or better

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. (CSU, UC)

ART 6C COLOR THEORY

Units: 3

Advisory: Completion of ART 6A with grade of "C" or better

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. (C-ID ARTS 270) (CSU, UC)

ART 7A OIL PAINTING I

Units: 3

Advisory: Completion of ART 4A with grade of "C" or better

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 are encouraged to develop self-expression and creativity. (CSU, UC)

ART 7B OIL PAINTING II

Units: 3

Prerequisite: Completion of ART 7A with grade of "C" or better

Hours: 90 (36 lecture, 54 laboratory)

Further in-depth study of oil painting techniques and processes, with emphasis on development of personal expression and style. (CSU, UC)

ART 8A WATERCOLOR PAINTING I

Units: 3

Prerequisite: Completion of ART 4A with grade of "C" or better

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 WATERCOLOR PAINTING II

Units: 3

Prerequisite: Completion of ART 8A with grade of "C" or better

Hours: 90 (36 lecture, 54 laboratory)

Further 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. (CSU, UC)

ART 9A ACRYLIC PAINTING I

Units: 3

Advisory: Completion of ART 4A with grade of "C" or better

Hours: 90 (36 lecture, 54 laboratory)

Introduction to techniques of acrylic painting. 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 ACRYLIC PAINTING II

Units: 3

Prerequisite: Completion of ART 9A with grade of "C" or better

Hours: 90 (36 lecture, 54 laboratory)

Further in-depth study of acrylic techniques and processes with emphasis on development of personal expression and style. (CSU, UC)

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, photography's role in the development of mass culture and other societal influences. (CSU, UC)

ART 12A SCULPTURE I

Units: 3

Hours: 90 (36 lecture, 54 laboratory)

Introduces the fundamental issues of sculpture through a variety of materials, processes and techniques. Skills acquired in a wide range of techniques and materials, both traditional (wood, metal, plaster) as well as non-traditional (fabric, video projections, performance, sustainable/salvaged/recycled materials). Emphasis on conceptual idea development, teaching students to connect metaphorical ideas and symbolic meaning to the crafting/making of sculptural objects. (CSU, UC)

ART 12B SCULPTURE II

Units: 3

Prerequisite: Completion of ART 12A with grade of "C" or better

Hours: 90 (36 lecture, 54 laboratory)

Further exploration of sculpture philosophy and materials with a greater emphasis toward development of personal direction and individual style. Students work with a variety of materials to create works of art. (CSU, UC)

ART 17 CERAMIC SCULPTURE/HANDBUILDING

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. (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 explored through handbuilding, wheel throwing, decorating and glazing of ceramic works. (CSU, UC)

ART 18B CERAMICS II

Units: 3

Prerequisite: Completion of ART 18A with grade of "C" or better

Hours: 90 (36 lecture, 54 laboratory)

Course builds on techniques learned in ART 18A. Potter's wheel, handbuilding, slip casting. Glaze technology introduced. (CSU, UC)

ART 19 FIGURE SCULPTURE

Units: 3

Advisory: Completion of ART 12A with grade of "C" or better

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 are introduced to a variety of construction materials beginning with ceramics. More advanced students may explore other materials such as plaster, bronze and stone. (CSU, UC)

ART 20 RAKU CERAMICS

Units: 3

Hours: 90 (36 lecture, 54 laboratory)

Introduction to Raku, a traditional ceramics process. Explores origins and cultural developments and their application to the contemporary world. Includes fabrication techniques, glaze chemistry, firing techniques and design theory. (CSU, UC)

ART 22 CREATIVE DESIGN IN METAL

Units: 3

Hours: 90 (36 lecture, 54 laboratory)

Exploration of metalworking techniques, design principles and material use for sculpture, functional and nonfunctional art forms. Common welding processes, forming, bending and blacksmithing techniques for ferrous and nonferrous metals. (CSU)

ART 24 ADVANCED ART METAL DESIGN

Units: 3

Prerequisite: Completion of ART 22 with grade of "C" or better

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 ferrous and nonferrous metal machining, advanced welding techniques, advanced forming methods and public outdoor art installation. (CSU)

ART 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. See Independent Study page in catalog. (CSU, UC-with unit limitation)

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. (C-ID ARTS 282) (CSU, UC)

ART 33 ART METAL CASTING

Units: 3

Hours: 90 (36 lecture, 54 laboratory)

Exploration of cast metal for sculpture, including 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. (CSU)

ART 34 COLLAGE AND ASSEMBLAGE

Formerly known as ART 303

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 40A PRINTMAKING I

Units: 3

Hours: 90 (36 lecture, 54 laboratory)

Introduction to printmaking processes. Direct practice in wood cut, lino cut, collagraph and monotype. (CSU, UC)

ART 40B PRINTMAKING II

Units: 3

Prerequisite: Completion of ART 40A with grade of "C" or better

Hours: 90 (36 lecture, 54 laboratory)

Further in-depth study of printmaking processes. Direct practice in relief, intaglio, collagraph and monotype. (CSU, UC)

ART 41 INTRODUCTION TO JEWELRY AND METALSMITHING

Units: 3

Hours: 90 (36 lecture, 54 laboratory)

Introduction to a wide range of methods, techniques and materials used to create jewelry and scale metal artwork and objects. Includes examination of the history and contemporary practices of jewelry-making and small metal casting/fabrication with a global cultural perspective. (CSU)

ART 52 PORTRAIT DRAWING AND PAINTING

Units: 3

Advisory: Completion of ART 4A

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. (CSU, UC)

ART 55 ILLUSTRATION

Also known as AAD 55

Units: 3

Prerequisite: Completion of one of the following courses with grade of "C" or better: AAD 44, 60, 62, 75 or 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, pricing and contracts and presentation of finished artwork. (CSU)

ART 71 INTRODUCTION TO DIGITAL PAINTING

Also known as AAD 71

Units: 3

Prerequisite: Completion of AAD 44 or ART 4A with grade of "C" or better

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. (CSU)

ART 73 DIGITAL ART STUDIO: CONCEPTS AND PRACTICES

Also known as AAD 73

Units: 3

Prerequisite: Completion of ART 4A or AAD 44 with grade of "C" or better

Advisory: Completion of AAD 70 with grade of "C" or better

Hours: 90 (36 lecture, 54 laboratory)

Introduction to the tools, concepts and processes for digital art creation with an emphasis on experimental animation, video, mixed media, digital imaging, installation and new genres. Topics include integration of traditional design, color and compositional principles with contemporary digital tools in an art studio context. (CSU)

ART 95 INTERNSHIP IN ART*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)

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. (CSU, UC-with unit limitation)

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*

Course designed for older adults. An overview of the development of various periods of art movements. Includes impact of culture, religion and political atmosphere on art and the identification of major works of art and artists in each period. Each class section focuses on one period or genre, such as Italian Renaissance, French Impressionism, Dutch Baroque, Arts of Islam, Feminist Art, Chinese Painting, or Art of the City. May be repeated. (noncredit)



ASTRONOMY

SCIENCES AND 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**Hours: 54 lecture*

General principles and fundamental facts of astronomy associated with planetary systems. 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. (CSU, UC)

ASTR 5 INTRODUCTION TO STARS, GALAXIES AND THE UNIVERSE*Units: 3**Advisory: Completion of ENGL 50**Hours: 54 lecture*

General principles and fundamental facts of astronomy emphasizing stars, galaxies and the universe. 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. (CSU, UC)

ASTR 7 LIFE IN THE UNIVERSE

Formerly known as INT 11

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 implications of life existing elsewhere in the universe. (CSU, UC)

ASTR 10 ELEMENTARY ASTRONOMY

Units: 3

Advisory: Completion of ENGL 50

Hours: 54 lecture

General principles and the fundamental facts of astronomy. 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 both ASTR 2 and ASTR 5. (CSU, UC)

ASTR 11 OBSERVATIONAL ASTRONOMY

Units: 1

Prerequisite: Completion with grade of "C" or better, or concurrent enrollment in, ASTR 2, 5, or 10

Advisory: Completion of ENGL 50

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 with grade of "C" or better, or concurrent enrollment in, ASTR 2, 5, or 10

Advisory: Completion of ENGL 50

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 cameras. NOTE: About 5 nights of activities will be required. (CSU, UC)

ASTR 25 FRONTIERS IN ASTRONOMY

Units: 3

Prerequisite: Completion of ASTR 5 or 10 with grade of "C" or better

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. 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)



ATHLETICS

HEALTH, PHYSICAL EDUCATION, RECREATION/ATHLETICS

DEAN: Lucas Moosman

DIVISION OFFICE: Ft

FACULTY: D. Brownell, M. Conway, S. Decker, E. Eaton, H. Eubanks, J. Fusano, J. Gantt, R. Goldenberg, B. Murrish, V. Nelson, B. Noonan, J. Tisdell, R. Willson

LIAISON COUNSELORS: B. Gosney, T. Times

Athletics courses are designed to provide healthy, competitive athletic experiences for student-athletes in a variety of men's and women's sports. The athletics teams compete at the intercollegiate level and function as part of the California Community College Athletic Association.

ATHLETICS COURSES »

ATHL 100 BASEBALL TRAINING

Formerly known as PHED 102

Units: 0.5-3

Prerequisite: Enrollment limitation: permission of instructor required; for students with advanced baseball skills, conditioning and previous competitive experience

Hours: 58 laboratory per unit

Stresses baseball training, skills, knowledge, strategy and appreciation. Intended for students with varsity high school experience who are preparing for competitive intercollegiate baseball. May be taken four times for credit. (CSU, UC-with unit limitation)

ATHL 101 BASKETBALL TRAINING

Formerly known as PHED 106

Units: 0.5-3

Prerequisite: Enrollment limitation: permission of instructor required; for students with advanced basketball skills, conditioning and previous competitive experience

Hours: 58 laboratory per unit

Stresses basketball training, skills, knowledge, strategy and appreciation. Intended for students with varsity high school experience who are preparing for competitive intercollegiate basketball. May be taken four times for credit. (CSU, UC-with unit limitation)

ATHL 105 SPRINGBOARD DIVING TRAINING

Units: 0.5-3

Prerequisite: Enrollment limitation: permission of instructor required; for students with advanced diving skills, conditioning and previous competitive experience

Hours: 58 laboratory per unit

Stresses diving training, skills, knowledge, strategy and appreciation. Intended for students with high school and/or recreational experience who are preparing for competitive intercollegiate diving. May be taken four times for credit. (CSU, UC-with unit limitation)

ATHL 106 FOOTBALL TRAINING

Formerly known as PHED 101

Units: 0.5-3

Prerequisite: Enrollment limitation: permission of instructor required; for students with advanced football skills, conditioning and previous competitive experience

Hours: 58 laboratory per unit

Stresses football training, skills, knowledge, strategy and appreciation. Intended for students with varsity high school experience who are preparing for competitive intercollegiate football. May be taken four times for credit. (CSU, UC-with unit limitation)

ATHL 107 GOLF TRAINING

Formerly known as PHED 103

Units: 0.5-3

Prerequisite: Enrollment limitation: permission of instructor required; for students with advanced golfing skills, conditioning and previous competitive experience

Hours: 58 laboratory per unit

Stresses golf training, skills, knowledge, strategy and appreciation. Intended for students with varsity high school experience who are preparing for competitive intercollegiate golf. May be taken four times for credit. (CSU, UC-with unit limitation)

ATHL 109 SOCCER TRAINING

Formerly known as PHED 116

Units: 0.5-3

Prerequisite: Enrollment limitation: permission of instructor required; for students with advanced soccer skills, conditioning and previous competitive experience

Hours: 58 laboratory per unit

Stresses soccer training, skills, knowledge, strategy and appreciation. Intended for students with varsity high school experience who are preparing for competitive intercollegiate soccer. May be taken four times for credit. (CSU, UC-with unit limitation)

ATHL 110 SOFTBALL TRAINING

Formerly known as PHED 111

Units: 0.5-3

Prerequisite: Enrollment limitation: permission of instructor required; for students with advanced softball skills, conditioning and previous competitive experience

Hours: 58 laboratory per unit

Stresses softball training, skills, knowledge, strategy and appreciation. Intended for students with varsity high school experience who are preparing for competitive intercollegiate softball. May be taken four times for credit. (CSU, UC-with unit limitation)

ATHL 111 SWIMMING TRAINING

Formerly known as PHED 107

Units: 0.5-3

Prerequisite: Enrollment limitation: permission of instructor required; for students with advanced swimming skills, conditioning and previous competitive experience

Hours: 58 laboratory per unit

Stresses swimming training, skills, knowledge, strategy and appreciation. Intended for students with varsity high school experience who are preparing for competitive intercollegiate swimming. May be taken four times for credit. (CSU, UC-with unit limitation)

ATHL 112 TENNIS TRAINING

Formerly known as PHED 104

Units: 0.5-3

Prerequisite: Enrollment limitation: permission of instructor required; for students with advanced tennis skills, conditioning and previous competitive experience

Hours: 58 laboratory per unit

Stresses tennis training, skills, knowledge, strategy and appreciation. Intended for students with varsity high school experience who are preparing for competitive intercollegiate tennis. May be taken four times for credit. (CSU, UC-with unit limitation)

ATHL 116 VOLLEYBALL TRAINING

Formerly known as PHED 110

Units: 0.5-3

Prerequisite: Enrollment limitation: permission of instructor required; for students with advanced volleyball skills, conditioning and previous competitive experience

Hours: 58 laboratory per unit

Stresses volleyball training, skills, knowledge, strategy and appreciation. Intended for students with varsity high school experience who are preparing for competitive intercollegiate volleyball. May be taken four times for credit. (CSU, UC-with unit limitation)

ATHL 117 WATER POLO TRAINING

Formerly known as PHED 108

Units: 0.5-3

Prerequisite: Enrollment limitation: permission of instructor required; for students with advanced water polo skills, conditioning and previous competitive experience

Hours: 58 laboratory per unit

Stresses water polo training, skills, knowledge, strategy and appreciation. Intended for students with varsity high school experience who are preparing for competitive intercollegiate water polo. May be taken four times for credit. (CSU, UC-with unit limitation)

ATHL 118 WRESTLING TRAINING

Formerly known as PHED 112

Units: 0.5-3

Prerequisite: Enrollment limitation: permission of instructor required; for students with advanced wrestling skills, conditioning and previous competitive experience

Hours: 58 laboratory per unit

Stresses wrestling training, skills, knowledge, strategy and appreciation. Intended for students with varsity high school experience who are preparing for competitive intercollegiate wrestling. May be taken four times for credit. (CSU, UC-with unit limitation)

ATHL 150 INTERCOLLEGIATE BASEBALL (M)

Formerly known as PHED 161

Units: 1-3

Prerequisite: Enrollment limitation: permission of instructor required; for students with advanced baseball skills, conditioning and previous competitive experience

Hours: 58 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)

ATHL 151 INTERCOLLEGIATE BASKETBALL (M)

Formerly known as PHED 143

Units: 1-3

Prerequisite: Enrollment limitation: permission of instructor required; for students with advanced basketball skills, conditioning and previous competitive experience

Hours: 58 laboratory per unit

Intercollegiate men's basketball competition conducted through NCAA and California Commission on Athletics rules. May be taken four times for credit. (CSU, UC-with unit limitation)

ATHL 152 INTERCOLLEGIATE BASKETBALL (W)

Formerly known as PHED 123

Units: 1-3

Prerequisite: Enrollment limitation: permission of instructor required; for students with advanced basketball skills, conditioning and previous competitive experience

Hours: 58 laboratory per unit

Intercollegiate women's basketball competition conducted through NCAA and California Commission on Athletics rules. May be taken four times for credit. (CSU, UC-with unit limitation)

ATHL 153 INTERCOLLEGIATE FOOTBALL (M)

Formerly known as PHED 142

Units: 1-3

Prerequisite: Enrollment limitation: permission of instructor required; for students with advanced football skills, conditioning and previous competitive experience

Hours: 58 laboratory per unit

Intercollegiate football competition conducted through NCFA and California Community College Athletic Association rules. May be taken four times for credit. (CSU, UC-with unit limitation)

ATHL 154 INTERCOLLEGIATE GOLF (M)

Formerly known as PHED 162

Units: 1-3

Prerequisite: Enrollment limitation: permission of instructor required; for students with advanced golf skills, conditioning and previous competitive experience

Hours: 58 laboratory per unit

Intercollegiate men's golf competition conducted through NCAA and California Commission on Athletics rules. May be taken four times for credit. (CSU, UC-with unit limitation)

ATHL 155 INTERCOLLEGIATE GOLF (W)

Formerly known as PHED 127

Units: 1-3

Prerequisite: Enrollment limitation: permission of instructor required; for students with advanced golf skills, conditioning and previous competitive experience

Hours: 58 laboratory per unit

Intercollegiate women's golf competition conducted through NCAA and California Commission on Athletics rules. May be taken four times for credit. (CSU, UC-with unit limitation)

ATHL 156 INTERCOLLEGIATE SOCCER (W)

Formerly known as PHED 124

Units: 1-3

Prerequisite: Enrollment limitation: permission of instructor required; for students with advanced soccer skills, conditioning and previous competitive experience

Hours: 58 laboratory per unit

Intercollegiate women's soccer competition conducted through FIFA laws of the game and CCCAA rules. May be taken four times for credit. (CSU-with unit limitation)

ATHL 157 INTERCOLLEGIATE SOFTBALL (W)

Formerly known as PHED 131

Units: 1-3

Prerequisite: Enrollment limitation: permission of instructor required; for students with advanced softball skills, conditioning and previous competitive experience

Hours: 58 laboratory per unit

Intercollegiate women's softball competition conducted through NCAA and California Community College Athletic Association rules. May be taken four times for credit. (CSU, UC-with unit limitation)

ATHL 158 INTERCOLLEGIATE SWIMMING (M)

Formerly known as PHED 165

Units: 1-3

Prerequisite: Enrollment limitation: permission of instructor required; for students with advanced swimming skills, conditioning and previous competitive experience

Hours: 58 laboratory per unit

Intercollegiate men's swimming and diving competition conducted through NCAA and California Community College Athletic Association rules. May be taken four times for credit. (CSU, UC-with unit limitation)

ATHL 159 INTERCOLLEGIATE SWIMMING (W)

Formerly known as PHED 134

Units: 1-3

Prerequisite: Enrollment limitation: permission of instructor required; for students with advanced swimming skills, conditioning and previous competitive experience

Hours: 58 laboratory per unit

Intercollegiate women's swimming and diving competition conducted through NCAA and California Community College Athletic Association rules. May be taken four times for credit. (CSU, UC-with unit limitation)

ATHL 160 INTERCOLLEGIATE TENNIS (M)

Formerly known as PHED 163

Units: 1-3

Prerequisite: Enrollment limitation: permission of instructor required; for students with advanced tennis skills, conditioning and previous competitive experience

Hours: 58 laboratory per unit

Intercollegiate men's tennis competition conducted through NCAA and California Commission on Athletics rules. May be taken four times for credit. (CSU, UC-with unit limitation)

ATHL 161 INTERCOLLEGIATE TENNIS (W)

Formerly known as PHED 132

Units: 1-3

Prerequisite: Enrollment limitation: permission of instructor required; for students with advanced tennis skills, conditioning and previous competitive experience

Hours: 58 laboratory per unit

Intercollegiate women's tennis competition conducted through NCAA and California Commission on Athletics rules. May be taken four times for credit. (CSU, UC-with unit limitation)

ATHL 162 INTERCOLLEGIATE VOLLEYBALL (W)

Formerly known as PHED 122

Units: 1-3

Prerequisite: Enrollment limitation: permission of instructor required; for students with advanced volleyball skills, conditioning and previous competitive experience

Hours: 58 laboratory per unit

Intercollegiate women's volleyball competition conducted through the California Commission on Athletics rules. May be taken four times for credit. (CSU, UC-with unit limitation)

ATHL 163 INTERCOLLEGIATE WATER POLO (M)

Formerly known as PHED 146

Units: 1-3

Prerequisite: Enrollment limitation: permission of instructor required; for students with advanced water polo skills, conditioning and previous competitive experience

Hours: 58 laboratory per unit

Intercollegiate men's water polo competition conducted through NCAA and California Community College Athletic Association rules. May be taken four times for credit. (CSU, UC-with unit limitation)

ATHL 164 INTERCOLLEGIATE WATER POLO (W)

Formerly known as PHED 137

Units: 1-3

Prerequisite: Enrollment limitation: permission of instructor required; for students with advanced water polo skills, conditioning and previous competitive experience

Hours: 58 laboratory per unit

Intercollegiate women's water polo competition conducted through NCAA and California Community College Athletic Association rules. May be taken four times for credit. (CSU, UC-with unit limitation)

ATHL 165 INTERCOLLEGIATE WRESTLING (M)

Formerly known as PHED 145

Units: 1-3

Prerequisite: Enrollment limitation: permission of instructor required; for students with advanced wrestling skills, conditioning and previous competitive experience

Hours: 58 laboratory per unit

Intercollegiate wrestling competition conducted through NCAA and California Community College Athletic Association rules. May be taken four times for credit. (CSU, UC-with unit limitation)

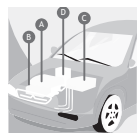
ATHL 199 INTERCOLLEGIATE SPORTS CONDITIONING

Units: 0.5-2.5

Prerequisite: Enrollment limitation: permission of instructor required; for students with advanced sport specific skills, conditioning and previous competitive experience

Hours: 58 laboratory per unit

Instruction in sport-specific strength and conditioning protocols related to improving muscular strength, power, agility and speed. Principles of sport-specific technical and tactical methodology presented. May be taken four times for credit. (CSU, UC-with unit limitation)



AUTOMOTIVE TECHNOLOGY

BUSINESS AND TECHNOLOGY

DEAN: Sonja Lolland

ASSOCIATE DEAN: Darlene Jackson

DIVISION OFFICE: B 3

FACULTY: S. Smith, A. Wong

LIAISON COUNSELORS: E. Farrelly, D. Quadros

The Automotive Technology 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 and Axles, Suspension/Steering, Brakes, Electric/Electronic Systems, Heating/Air Conditioning and Engine Performance.

The Automotive Technology Curriculum is designed to prepare students to become competent technicians and gain employment in the automotive industry at the completion of the program and 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 the following major requirements with grades of "C" or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth (CSU GE) pattern; or Intersegmental General Education Transfer Curriculum (IGETC).

REQUIRED COURSES:

UNITS

AUTO 1 Automotive Data Acquisition . . . . .	.5
AUTO 61 Vehicle and Engine Analyzing	4
AUTO 64 Hydraulic and Brake Systems	4
AUTO 68A Basic Automatic Transmissions	4
AUTO 71A Automotive Electrical Systems	4
AUTO 79 Suspension and Wheel Alignment	4
AUTO 150 Introduction to Automotive Technology Profession . .	.5

PLUS 4 UNITS FROM:

AUTO 66A Engine Reconditioning	4
AUTO 69 Automotive Air Conditioning and Heating	4
AUTO 75 Automotive Electronics	4
AUTO 80 Automotive Powertrains Manual Transmissions	4

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 Introductory Welding for Metalworking (WELD 15). General education courses are not required. Specialized certificates require 18 to 36 units of course work, while the Master Automotive Technician Certificate requires 58.5 units. A certificate is designed to provide career technical skills; it is not equivalent to an associate 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 OF ACHIEVEMENT

REQUIRED COURSES:	UNITS
AUTO 1 Automotive Data Acquisition . . . . .	.5
AUTO 60 Skill and Speed Development AND/OR	
AUTO 95 Internship in Automotive Technology	2
AUTO 61 Vehicle and Engine Analyzing	4
AUTO 69 Automotive Air Conditioning and Heating	4
AUTO 71A Automotive Electrical Systems	4
AUTO 75 Automotive Electronics	4
AUTO 150 Introduction to Automotive Technology Profession . .	.5
TOTAL UNITS REQUIRED: 19	

ALIGNMENT AND BRAKE CERTIFICATE OF ACHIEVEMENT

REQUIRED COURSES:	UNITS
AUTO 1 Automotive Data Acquisition . . . . .	.5
AUTO 60 Skill and Speed Development	1
AUTO 64 Hydraulic and Brake Systems	4
AUTO 71A Automotive Electrical Systems	4
AUTO 79 Suspension and Wheel Alignment	4
AUTO 150 Introduction to Automotive Technology Profession . .	.5
WELD 15 Introductory Welding for Metalworking	2

PLUS 3-4 UNITS FROM:

AUTO 28 Independent Study	1-2
AUTO 95 Internship in Automotive Technology . . . . .	.5-2
BUS 140 Small Business Management	3

TOTAL UNITS REQUIRED: 19-20

AUTOMATIC TRANSMISSION CERTIFICATE OF ACHIEVEMENT

REQUIRED COURSES:	UNITS
AUTO 1 Automotive Data Acquisition . . . . .	.5
AUTO 60 Skill and Speed Development	1
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 15 Introductory Welding for Metalworking	2

PLUS 3-4 UNITS FROM:

AUTO 28 Independent Study	1-2
AUTO 95 Internship in Automotive Technology . . . . .	.5-2
BUS 140 Small Business Management	3

TOTAL UNITS REQUIRED: 19-20

AUTOMOTIVE ENGINE MACHINING CERTIFICATE OF ACHIEVEMENT

REQUIRED COURSES:	UNITS
AUTO 1 Automotive Data Acquisition . . . . .	.5
AUTO 60 Skill and Speed Development	1
AUTO 66A Engine Reconditioning	4
AUTO 66B Engine Reconditioning	4
AUTO 150 Introduction to Automotive Technology Profession . .	.5
WELD 15 Introductory Welding for Metalworking	2

PLUS 6-7 UNITS FROM:

AUTO 28 Independent Study	1-2
AUTO 95 Internship in Automotive Technology	1-4
WELD 40 Wire Feed Welding Processes—Career Path OR	
WELD 50 Gas Tungsten Arc Welding (TIG)—Career Path	2-3

TOTAL UNITS REQUIRED: 18-19

EMISSION AND DRIVEABILITY TUNE-UP CERTIFICATE OF ACHIEVEMENT

REQUIRED COURSES:	UNITS
AUTO 1 Automotive Data Acquisition . . . . .	.5
AUTO 31 Automotive Emission Control Systems OR	
Completion of BAR Smog Check Inspection Training	
(Level 1) Certificate	0-4.5
AUTO 34 Advanced BAR Smog Check Inspection	
Training (Level 2) OR	
Possession of California Smog Certification License	0-1.5
AUTO 60 Skill and Speed Development OR	
AUTO 95 Internship in Automotive Technology	1
AUTO 61 Vehicle and Engine Analyzing	4
AUTO 62A Engine Fuel System Principles and Controls	4
AUTO 62B Computer Controlled Carburetion and Fuel Injection	4
AUTO 63 Advanced Engine Performance Diagnosis	4
AUTO 69 Automotive Air Conditioning and Heating	4
AUTO 71A Automotive Electrical Systems	4
AUTO 75 Automotive Electronics	4
AUTO 150 Introduction to Automotive Technology Profession . .	.5
TOTAL UNITS REQUIRED: 30-36	

MASTER AUTOMOTIVE TECHNICIAN CERTIFICATE OF ACHIEVEMENT

REQUIRED COURSES:	UNITS
AUTO 1 Automotive Data Acquisition . . . . .	.5
AUTO 31 Automotive Emission Control Systems	4.5
AUTO 60 Skill and Speed Development AND/OR	
AUTO 95 Internship in Automotive Technology	3
AUTO 61 Vehicle and Engine Analyzing	4
AUTO 62A Engine Fuel System Principles and Controls	4
AUTO 63 Advanced Engine Performance Diagnosis	4
AUTO 64 Hydraulic and Brake Systems	4
AUTO 66A Engine Reconditioning	4
AUTO 68A Basic Automatic Transmissions	4
AUTO 69 Automotive Air Conditioning and 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 15 Introductory Welding for Metalworking	2

PLUS 8 UNITS FROM:

AUTO 62B Computer Controlled Carburetion and Fuel Injection	4
AUTO 66B Engine Reconditioning	4
AUTO 75 Automotive Electronics	4

TOTAL UNITS REQUIRED: 58.5

POWERTRAIN CERTIFICATE OF ACHIEVEMENT

REQUIRED COURSES:	UNITS
AUTO 1 Automotive Data Acquisition . . . . .	.5
AUTO 60 Skill and Speed Development	1
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 15 Introductory Welding for Metalworking	2

PLUS 3-4 UNITS FROM:

AUTO 28 Independent Study	1-2
AUTO 95 Internship in Automotive Technology . . . . .	.5-2
BUS 140 Small Business Management	3

TOTAL UNITS REQUIRED: 19-20

ENTRY LEVEL AUTOMOTIVE SERVICE AND REPAIR SKILLS CERTIFICATE

Designed to give students the automotive service/repair knowledge and abilities to successfully enter the workforce as an entry level automotive service technician requiring minimal supervision. This skills certificate focuses on skills and knowledge needed to diagnose, service and repair automotive electrical, brake, suspension and steering. This is a specialty skills certificate designed to provide career technical skills to enter the automotive repair business; it is not equivalent to an associate degree.

REQUIRED COURSES:	UNITS
AUTO 1 Automotive Data Acquisition . . . . .	.5
AUTO 64 Hydraulic and Brake Systems	4
AUTO 71A Automotive Electrical Systems	4
AUTO 79 Suspension and Wheel Alignment	4
AUTO 150 Introduction to Automotive Technology Profession . .	.5
TOTAL UNITS REQUIRED: 13	

AUTOMOTIVE TECHNOLOGY COURSES »

AUTO 1 AUTOMOTIVE DATA ACQUISITION

Units: 0.5

Hours: 11 (7 lecture, 4 activity)

Retrieval and application of automotive service data from on-line technical data bases including ALLDATA and Mitchell on Demand, as well as other websites related to automotive service information, shop management systems and documentation. Recommended for all Automotive Program students during their first semester 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. See Independent Study page in catalog. (CSU)

AUTO 31 AUTOMOTIVE EMISSION CONTROL SYSTEMS

Units: 4.5

Hours: 81 lecture

Training for meeting BAR Level 1 towards inspector license (EO), fundamental knowledge of engine and emission control theory, design and operation. Successful completion meets the first step of the Bureau of Automotive Repair (BAR) training requirements for inexperienced or minimally experienced candidates for the Smog Check Inspector license (EO). (not transferable)

AUTO 34 ADVANCED BAR SMOG CHECK INSPECTION TRAINING (LEVEL 2)

Units: 1.5

Prerequisite: Completion of AUTO 31 with grade of "C" or better or equivalent as determined by instructor

Hours: 29 lecture

Provides students with the procedural knowledge, skills and abilities needed to perform Smog Check inspections. Successful completion meets the BAR Level 2 training requirements necessary to take the California BAR Smog Check Inspector (E0) licensing examination. (not transferable)

AUTO 59 INTRODUCTION TO AUTOMOTIVE SERVICE

Units: 4

Hours: 108 (54 lecture, 54 laboratory)

Designed for students with little or no formal background or training in the automotive field. Shop safety, tool usage and hazardous waste management are covered. Vehicle topics include: engine operation, lubrication, cooling, ignition, electrical, suspension, fuel systems, brakes, tires and drive train. (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. (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 analysis using the latest equipment and methods. Also covers generic on-board diagnostic second generation (OBD2) engine control. Preparation for ASE Certification exam. (not transferable)

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 oxygenated blends, engine performance and fuel controls using computerized and non-computerized carburetion and fuel injection. Preparation for ASE Certification examination. (CSU)

AUTO 62B COMPUTER CONTROLLED CARBURETION AND FUEL INJECTION

Units: 4

Prerequisite: Completion of AUTO 61, 62A and 71A with grades of "C" or better

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 all types of low and high pressure electronic feedback fuel injection systems on modern low and zero emission vehicles. Preparation for ASE Certification exam and smog repair technician license exam. (not transferable)

AUTO 63 ADVANCED ENGINE PERFORMANCE DIAGNOSIS

Formerly BAR A6, A8 and L1 alternative courses. (not transferable)

Units: 4

Prerequisite: Completion of AUTO 1 and 62B with grades of "C" or better

Hours: 108 (54 lecture, 54 laboratory)

BAR Specified Diagnostic and Repair Training. Study of engine performance, electrical/electronics, advanced level engine performance diagnosis. Preparation for BAR Smog Check Repair Technician E1 License and ASE Certification exam. Formerly BAR A6, A8 and L1 alternative courses. (not transferable)

AUTO 64 HYDRAULIC AND BRAKE SYSTEMS

Units: 4

Hours: 108 (54 lecture, 54 laboratory)

Application of industry standards and practices for the inspection, diagnosis, service and repair of automotive and light truck braking systems. Theory of operation as well as service procedures for disc and drum brake systems, hydraulic systems, power-assist devices and anti-lock brake systems. 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 the reconditioning of automotive and light truck engines including: cylinder head re-surfacing, valve guide repair, valve re-facing, valve seat replacement and finishing by grinding as well as carbide forming bits. Precision measurement of parts with micrometers and dial bore gauges. Part cleaning and inspection processes including Magnaflux and penetrating dye. Preparation for ASE Certification A-1. (CSU)

AUTO 66B ENGINE RECONDITIONING

Units: 4

Prerequisite: Completion of AUTO 66A with grade of "C" or better

Hours: 108 (54 lecture, 54 laboratory)

Advanced engine repair course. Students required to completely rebuild one liquid-cooled automotive engine. Engine and parts to be supplied by the student; cost varies from \$300 to \$1,000 or more. Preparation for ASE Certification exam A-1. (CSU)

AUTO 68A BASIC AUTOMATIC TRANSMISSIONS

Units: 4

Hours: 108 (54 lecture, 54 laboratory)

Theory of operation as well as service and repair practices for automatic transmissions and transaxles. Topics include: hydraulic torque converters and pumps, planetary gear sets, clutches and bands, hydraulic systems and apply devices and electronic controls. Emphasis on diagnosis, adjustment, service and rebuilding of transmissions used on domestic and foreign automobiles. Testing on a transmission dynamometer. Preparation for ASE Certification exam A-2. (not transferable)

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. Includes use of State and Federal approved recovery and recycling equipment. Required to obtain EPA Section 609 refrigerant training certificate. Preparation for ASE Certification examination. (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 circuits and parallel circuits. Live system failure diagnosis using voltmeters, ammeters and ohmmeters. Preparation for ASE Certification exam. (CSU)

AUTO 75 AUTOMOTIVE ELECTRONICS

Units: 4

Prerequisite: Completion of AUTO 71A with grade of "C" or better

Hours: 108 (54 lecture, 54 laboratory)

Advanced study in automotive electronics, Controller Area Network (CAN) and control systems; resistor, capacitor, inductor, diode and transistor circuitry with application to solid state sensors, controllers and actuators. In-depth study of electrical diagnostics using computer-based diagnostic equipment and digital storage oscilloscope. Preparation for ASE Certification examination. (CSU)

AUTO 79 SUSPENSION AND WHEEL ALIGNMENT

Formerly known as AUTO 77 and 78

Units: 4

Hours: 108 (54 lecture, 54 laboratory)

Principles of wheel alignment, steering and suspension systems and their components. Methods of measuring and adjusting alignment geometry for automobiles and light trucks including four wheel alignment. Identification and correction of damaged and worn steering components. Emphasis on analyzing the cause and correction of improper suspension and alignment conditions including conventional and strut-type suspension systems. Preparation for ASE Certification. (CSU)

AUTO 80 AUTOMOTIVE POWERTRAINS MANUAL TRANSMISSIONS

Units: 4

Hours: 108 (54 lecture, 54 laboratory)

Theory of operation as well as service and repair procedures for automotive and light truck manual transmission and drive train systems. Topics include: diagnosis and overhaul techniques for manual transmissions/transaxles, drivelines, four-wheel-drive transfer cases, clutches and differentials (including limited slip). Preparation for ASE Certification A-3 Manual Drive Train and Axles. (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 and development of an educational plan. (pass/no pass grading) (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 AND MATHEMATICS

DEAN: Heather Roberts

ASSOCIATE DEAN: Michael Kane

DIVISION OFFICE: V 211

FACULTY: P. Badaracco, L. Brahce, K. Carroll, S. Martinez, K. Muma, S. Pikul, W. Place, J. Skillen, I. Thomas, S. Warren
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. In all cases, students should consult with a counselor for more information on university admission and transfer requirements. Students must fulfill the following major requirements with grades of "C" or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth pattern; or Intersegmental General Education Transfer Curriculum (IGETC).

REQUIRED COURSES

12 UNITS FROM:

BIOL 1 General Biology	4
BIOL 2 Botany	4.5
BIOL 3 General Zoology	4
BIOL 4 Microbiology OR	
BIOL 8A AND 8B Microbiology	5
BIOL 5 Human Anatomy OR	
BIOL 7A Human Anatomy I AND	
BIOL 7B Human Anatomy II	4-5
BIOL 6 Human Physiology	5

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

CHEM 1A General Chemistry I	5
CHEM 1B General Chemistry II	5
CHEM 2A Introduction to Chemistry I	5
CHEM 2B Introduction to Chemistry II	5
CHEM 3A General Chemistry I—Part 1	3
CHEM 3B General Chemistry I—Part 2	3
ESCI 1 Physical Geology	3
MATH 8 Trigonometry	4
MATH 12 College Algebra	4
MATH 13 Elementary Statistics	4
MATH 16A Calculus for Social and Life Sciences	4
MATH 16B Calculus for Social and Life Sciences	4
MATH 29 Pre-Calculus Mathematics	4
MATH 30 Analytical Geometry and Calculus I	4
MATH 42 Business Calculus	4
PHYS 105 General Physics I AND	
PHYS 105L General Physics I Laboratory	5
PHYS 110 General Physics II AND	
PHYS 110L General Physics II Laboratory	4
PHYS 205 Principles of Physics: Mechanics AND	
PHYS 205L Principles of Physics Laboratory: Mechanics	5
PHYS 210 Principles of Physics: Electricity and Magnetism AND	
PHYS 210L Principles of Physics Laboratory: Electricity and Magnetism	4

PLUS A MINIMUM OF .5 UNIT FROM:

BIOL 16A through 16Z Field Studies in Biology5-6
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TOTAL UNITS REQUIRED: 20.5-26

Recommended Electives:

CSCI 10 or CIS 50, ESS 1

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

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 the following major requirements with grades of "C" or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth pattern; or Intersegmental General Education Transfer Curriculum (IGETC).

REQUIRED COURSES:

	UNITS
BIOL 1 General Biology OR	
BIOL 11 Concepts of Biology.....	4
BIOL 13 Field Methods in Ecology	3
BIOL 14 Natural History, Ecology and Conservation	4
BIOL 95 Internship in Biological Sciences	1
ESS 13 Environmental Regulations.....	1
GEOG 90 Introduction to Geographic Information Systems (GIS)	3*

PLUS 9-12 UNITS FROM ANY OF THE FOLLOWING:

ANIMAL STUDY EMPHASIS:

BIOL 3 General Zoology.....	4
BIOL 16D Biology of Waterfowl and Marsh Birds .....	.5
BIOL 16M Marine Mammals and Birds.....	1.5
BIOL 30 Introduction to Ornithology	3
BIOL 33 Introduction to Zoology.....	4
BIOL 35 Introduction to Entomology	3
BIOL 36 Introduction to Mammalogy.....	3

PLANT STUDY EMPHASIS:

BIOL 2 Botany OR	
BIOL 22 Introduction to Botany	4-4.5
BIOL 16C Vernal Pools and the California Prairie .....	.5
BIOL 16E Ecology of the Sierran Conifer Forest.....	.5
BIOL 23 Wildflower Identification.....	.5
BIOL 24 Wildland Trees and Shrubs (Dendrology)	4

GENERAL EMPHASIS:

AGRI 221 Introduction to Soil Science	3
BIOL 16A Local Ecosystems of Placer County .....	.5
ESS 1 The Environment and the Human Impact.....	3
GEOG 1 Physical Geography	3
MATH 13 Elementary Statistics	4

TOTAL UNITS REQUIRED: 25-28

*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.

WATERSHED ECOLOGY

CERTIFICATE OF ACHIEVEMENT

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 associate degree.

REQUIRED COURSES:

	UNITS
BIOL 1 General Biology OR	
BIOL 11 Concepts of Biology.....	4
BIOL 13 Field Methods in Ecology	3
BIOL 14 Natural History, Ecology and Conservation	4
BIOL 95 Internship in Biological Sciences	1
ENGL 1A Introduction to Composition OR	
ENGL 12 Writing in the Workplace	3
ESS 13 Environmental Regulations.....	1
GEOG 90 Introduction to Geographic Information Systems (GIS)	3*

PLUS 9-12 UNITS FROM ANY OF THE FOLLOWING:

ANIMAL STUDY EMPHASIS:

BIOL 3 General Zoology.....	4
BIOL 16D Biology of Waterfowl and Marsh Birds .....	.5
BIOL 16M Marine Mammals and Birds.....	1.5
BIOL 30 Introduction to Ornithology	3
BIOL 33 Introduction to Zoology.....	4
BIOL 35 Introduction to Entomology	3
BIOL 36 Introduction to Mammalogy.....	3

PLANT STUDY EMPHASIS:

BIOL 2 Botany OR	
BIOL 22 Introduction to Botany	4-4.5
BIOL 16C Vernal Pools and the California Prairie .....	.5
BIOL 16E Ecology of the Sierran Conifer Forest.....	.5
BIOL 23 Wildflower Identification.....	.5
BIOL 24 Wildland Trees and Shrubs (Dendrology)	4

GENERAL EMPHASIS:

AGRI 221 Introduction to Soil Science	3
BIOL 16A Local Ecosystems of Placer County .....	.5
ESS 1 The Environment and the Human Impact.....	3
GEOG 1 Physical Geography	3
MATH 13 Elementary Statistics	4

TOTAL UNITS REQUIRED: 28-31

*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 high school chemistry or CHEM A or higher with grade(s) of "C" or better; AND eligibility for ENGL 11
Advisory: Eligibility for ENGL 1A

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, pre-veterinary 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: Eligibility for ENGL 11

Advisory: Completion of BIOL 55, 56, HSCI 3, or previous science course with grade of "C" or better, or experience in health care field; completion of MATH D with grade of "C" or better; eligibility for ENGL 1A

Hours: 108 (54 lecture, 54 laboratory)

Structure, relationships among structures and histology of the human body from cellular to organ system levels of organization. A rigorous course designed especially for science/health related majors (premedical, pre dental, pre nursing, occupational and physical therapy, laboratory technician, kinesiology, zoology and biology). Cadaver dissections used for instruction. 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 1A or 3A/3B; AND BIOL 5 or 7A/7B or 55 with grades of "C" or better

Advisory: Completion of MATH D with grade of "C" or better; completion of a non-majors general biology course with grade of "C" or better; and eligibility for ENGL 1A

Hours: 126 (72 lecture, 54 laboratory)

Study of the physiology, integration and homeostasis of the human body from chemical through organism levels. Organ systems covered are integumentary, muscular, nervous, sensory, cardiovascular, lymphatic and immune, respiratory, urinary, digestive, endocrine and reproductive system. Experiments using living and non-living models are performed in lab using methods of data acquisition, recording systems and analysis of data. This course is primarily intended for Nursing, Allied Health, Kinesiology and other health or life science majors. (CSU, UC-with unit limitation)

BIOL 7A HUMAN ANATOMY I

Units: 2.5

Prerequisite: Eligibility for ENGL 11

Advisory: Completion of BIOL 55, 56, HSCI 3, or previous science course with grade of "C" or better, or experience in health care field; completion of MATH D with grade of "C" or better; eligibility for ENGL 1A

Hours: 72 (36 lecture, 36 laboratory)

Structure, relationships among structures and histology of the human body from cellular to organ system levels of organization. Includes integumentary, skeletal, nervous and sensory systems. Cadaver dissections 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 HUMAN ANATOMY II

Units: 2.5

Prerequisite: Completion of BIOL 7A with grade of "C" or better

Hours: 72 (36 lecture, 36 laboratory)

Structure, relationships among structures and histology of the human body from cellular to organ system levels of organization. Includes muscle, cardiovascular, lymphatic, endocrine, respiratory, digestive, urinary and reproductive systems. Cadaver dissections 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 for non-life science majors desiring an introductory biology course without a lab. Introduces the main concepts of biology, covering molecular and cell biology, heredity and nature of genes, biotechnology, evolution, diversity of life and principles of ecology. Students enrolling in BIOL 11 after having taken BIOL 10 will lose credit for BIOL 10. (CSU, UC-with unit limitation)

BIOL 11 CONCEPTS OF BIOLOGY

Units: 4

Advisory: Eligibility for ENGL 1A or ESL 40W and MATH 12

Hours: 108 (54 lecture, 54 laboratory)

Designed for non-life science majors desiring an introductory biology course with a lab. Introduces the main concepts of biology, covering molecular and cell biology, heredity and nature of genes, biotechnology, evolution, diversity of life and principles of ecology. Students enrolling in BIOL 11 after having taken BIOL 10 will lose credit for BIOL 10. Students enrolling in BIOL 11 after having taken BIOL 56 and 56L will lose credit for BIOL 56 and 56L. (CSU, UC-with unit limitation)

BIOL 13 FIELD METHODS IN ECOLOGY

Formerly known as BIOL 13B

Units: 3

Advisory: Completion of BIOL 14 strongly recommended

Hours: 90 (36 lecture, 54 laboratory)

Introduction to methods for sampling and studying environmental parameters of ecosystems and organisms. Identification of microscopic and macroscopic organisms, quantitative and qualitative field research techniques and procedures applicable to environmental assessment and population monitoring. 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: Eligibility for ENGL 11

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. Students may be required to provide their own transportation on field trips. (CSU, UC)

BIOL 16A LOCAL ECOSYSTEMS OF PLACER COUNTY

Units: 0.5

Hours: 13 (7 lecture, 6 laboratory)

Field study that introduces 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. Students may be required to provide their own transportation. (CSU)

BIOL 16B LOCAL ECOSYSTEMS OF NEVADA COUNTY

Units: 0.5

Hours: 13 (7 lecture, 6 laboratory)

Field study that introduces 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. Students may be required to provide their own transportation. (CSU)

BIOL 16C VERNAL POOLS AND THE CALIFORNIA PRAIRIE

Units: 0.5

Hours: 13 (7 lecture, 6 laboratory)

Field study that 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. Students may be required to provide their own transportation. (CSU)

BIOL 16D BIOLOGY OF WATERFOWL AND MARSH BIRDS

Units: 0.5

Hours: 13 (7 lecture, 6 laboratory)

Field identification and observation of marsh birds (primarily ducks, geese, swans and wading birds). 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. Students may need to provide their own transportation. (CSU)

BIOL 16E ECOLOGY OF THE SIERRAN CONIFER FOREST

Units: 0.5

Hours: 13 (7 lecture, 6 laboratory)

Field study that introduces forest biology/ecology, emphasizing interrelationships 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. Students may be required to provide their own transportation. (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. Students may be required to provide their own transportation. (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. (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 tide-pool, 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 21 INTRODUCTION TO PLANT SCIENCE

Also known as AGRI 156

Units: 4

Advisory: Eligibility for ENGL 1A or ESL 40W

Hours: 108 (54 lecture, 54 laboratory)

Emphasizes 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 plant science with other life sciences and technology. Applies principles of plant science to agricultural systems. (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

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)

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. See Independent Study page in catalog. (CSU, UC-with unit limitation)

BIOL 30 INTRODUCTION TO ORNITHOLOGY

Units: 3

Advisory: Eligibility for ENGL 1A or ESL 40W

Hours: 54 lecture

Introduction to the general ecology, evolution and physiology of birds, with an emphasis on northern California avifauna. (CSU, UC)

BIOL 33 INTRODUCTION TO ZOOLOGY

Units: 4

Advisory: Eligibility for ENGL 11

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: 3

Advisory: Eligibility for ENGL 1A or ESL 40W

Hours: 54 lecture

Introduction to the general ecology, evolution and physiology of insects, with examples from the insect fauna of northern California. Describes the key relationships (medical, agricultural, etc.) insects have with humans. Recommended for general education students or other majors interested in entomology. (CSU, UC)

BIOL 36 INTRODUCTION TO MAMMALOLOGY

Units: 3

Advisory: Eligibility for ENGL 1A or ESL 40W

Hours: 54 lecture

Introduction to the general ecology, evolution and physiology of mammals, with an emphasis on species of northern California. Topics include: identifying characteristics, local species, ecological relationships, human interactions and behavioral, structural and physiological adaptations. Recommended for general education students or other majors interested in mammals. (CSU)

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)



BUSINESS

BUSINESS AND TECHNOLOGY

DEAN: Sonja Lolland

ASSOCIATE DEAN: Darlene Jackson

DIVISION OFFICE: B 3

FACULTY: D. Bushnell, A. Diamond, C. Dunn, K. Heisinger, T.

Jensen, S. Linthicum, C. Magnani, T. Read, W. Walczykowski

LIAISON COUNSELORS: E. Farrelly, M. Moon, Reyes Ortega

The business discipline offers training in nine major areas: Accounting, Administrative Professional, Business Administration, Business Entrepreneurship, General Business, Management, Marketing and Real Estate. For Computer Information Systems and Computer Science, 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.

BUSINESS ADMINISTRATION FOR TRANSFER AS-T DEGREE

Business Administration is designed to provide a broad knowledge of the functional areas of a business while developing managerial skills, communication skills, technical abilities and decision-making capability. Students will analyze and critically evaluate information to solve business problems, evaluate and use appropriate technology in the changing business environment, analyze ethical and social issues in business situations and make business and economic decisions that reflect professional responsibility.

The Associate in Science in Business Administration for Transfer degree (AS-T) prepares students to transfer into the CSU system to complete a bachelor's degree in Business Administration or a major deemed similar by a CSU campus. Students earning an associate degree for transfer and meeting the CSU minimum transfer admission requirements are guaranteed admission with junior standing to the CSU system, but not to a particular campus or major. Upon transfer, students will be required to complete no more than 60 additional prescribed units to earn a bachelor's degree.

To earn the Associate in Science in Business Administration for Transfer degree, students must complete 60 CSU-transferable semester units with a minimum grade point average of 2.0, including both of the following:

- completion of all courses required for the major with grades of "C" or better; and
- completion of the California State University General Education Breadth (CSU GE) pattern or the Intersegmental General Educa-

tion Transfer Curriculum (IGETC) pattern.

It is highly recommended that, prior to transferring, students complete courses that satisfy the CSU United States History, Constitution and American Ideals graduation requirement. In all cases, students should consult with a counselor for more information on university admission and transfer requirements.

REQUIRED COURSES:

	UNITS
BUS 1 Financial Accounting I	3
BUS 2 Financial Accounting II	3
BUS 3 Managerial Accounting	3
BUS 48 Business Law	3
ECON 1A Principles of Macroeconomics	3
ECON 1B Principles of Microeconomics	3

PLUS 3-4 UNITS FROM:

MATH 13 Elementary Statistics	4
MATH 20 Finite Mathematics	3
MATH 42 Business Calculus	4

PLUS 6 UNITS FROM THE FOLLOWING OR ANY UNUSED COURSES FROM THE PRECEDING AREA:

BUS 20 Introduction to Business OR	
BUS 102 Business Communications	3
CIS 50 Applying Computer Software OR	
CIS 62 Business Information Systems OR	
CSCI 10 Introduction to Computing	3

TOTAL UNITS REQUIRED: 27-28

ACCOUNTING

A.A. OR A.S. DEGREE AND/OR CERTIFICATE OF ACHIEVEMENT

Successful completion of the curriculum in accounting prepares students for positions as accounting clerks, bookkeepers, payroll clerks or entry-level accountants. For the degree, students must fulfill the following major requirements with grades of "C" or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth (CSU GE) pattern; or Intersegmental General Education Transfer Curriculum (IGETC). A certificate is designed to provide career technical skills; it is not equivalent to an associate degree.

REQUIRED COURSES:

	UNITS
BUS 1 Financial Accounting I	3
BUS 2 Financial Accounting II	3
BUS 3 Managerial Accounting	3
BUS 9 Federal Income Taxation of Individuals	3
CIS 50 Applying Computer Software OR	
CSCI 10 Introduction to Computing	3
CIS 80 Spreadsheets in a Business Environment	3

PLUS 3 UNITS FROM:

BUS 8 Computerized Accounting for Windows	3
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BUS 20 Introduction to Business	3
BUS 48 Business Law	3
BUS 55 International Business Practices	3
BUS 64 Business Mathematics	3
BUS 101 Personal Money Management	3
BUS 115 Introduction to Banking	3
BUS 150 Business Capstone	3
TOTAL UNITS REQUIRED: 21	

**ADMINISTRATIVE PROFESSIONAL
A.A. OR A.S. DEGREE AND/OR CERTIFICATE OF
ACHIEVEMENT
(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. For the degree, students must fulfill the following major requirements with grades of "C" or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth (CSU GE) pattern; or Intersegmental General Education Transfer Curriculum (IGETC). A certificate is designed to provide career technical skills; it is not equivalent to an associate degree.

REQUIRED COURSES:	UNITS
BUS A Elements of Accounting OR	
BUS 1 Financial Accounting I	3
BUS 8 Computerized Accounting for Windows	3
BUS 20 Introduction to Business	3
BUS 102 Business Communications OR	
ENGL 12 Writing in the Workplace	3
CIS 50 Applying Computer Software	3
CIS 70 Word Processing-Beyond the Basics	3
CIS 80 Spreadsheets in a Business Environment	3

PLUS 3 UNITS FROM:

BUS B Accounting and Finance for the Small Business Owner . .	3
BUS 52 Creating a Virtual Office (also CIS 52)	3
BUS 53 Marketing a Virtual Office (also CIS 53)	3
BUS 54 Managing a Virtual Office (also CIS 54)	3
BUS 55 International Business Practices	3
BUS 64 Business Mathematics	3
BUS 85 Introduction to Oral Communication	3
BUS 95 Internship in Business OR	
CIS 95 Internship in Computer Information Systems	1-3
BUS 115 Introduction to Banking	3
BUS 116 Customer Service Skills	3
CIS 90 Database Management	3
CIS 100 Software for Dynamic Presentations	3
CIS 120 Creating Business Graphics with Microsoft Publisher . .	3
CIS 136 Project Management Concepts and Software	3
TOTAL UNITS REQUIRED: 24	

**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. In all cases, students should consult with a counselor for more information on university admission and transfer requirements. Students must fulfill the following major requirements with grades of "C" or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth (CSU GE) pattern; or Intersegmental General Education Transfer Curriculum (IGETC).

REQUIRED COURSES:	UNITS
BUS 1 Financial Accounting I	3
BUS 2 Financial Accounting II	3
BUS 3 Managerial Accounting	3
CIS 50 Applying Computer Software OR	
CIS 62 Business Information Systems OR	
CSCI 10 Introduction to Computing	3
BUS 48 Business Law OR	
ECON 1B Principles of Microeconomics	3
ECON 1A Principles of Macroeconomics OR	
ECON 1B Principles of Microeconomics	3
MATH 13 Elementary Statistics OR	
MATH 20 Finite Mathematics OR	
MATH 24 Modern Business Mathematics OR	
MATH 42 Business Calculus	3-4
TOTAL UNITS REQUIRED: 21-22	
Recommended Elective: BUS 150	

**BUSINESS ENTREPRENEURSHIP
A.A. OR A.S. DEGREE AND/OR CERTIFICATE OF
ACHIEVEMENT
(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. For the degree, students must fulfill the following major requirements with grades of "C" or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth (CSU GE) pattern; or Intersegmental General Education Transfer Curriculum (IGETC). A certificate is designed to provide career technical skills; it is not equivalent to an associate degree.

REQUIRED COURSES:	UNITS
BUS B Accounting and Finance for the Small Business Owner OR	
BUS 1 Financial Accounting I	3
BUS 20 Introduction to Business	3

BUS 28 Independent Study OR	
BUS 95 Internship in Business	1-3
BUS 102 Business Communications	3
BUS 120 Introduction to Marketing	3
BUS 140 Small Business Management	3

PLUS 6 UNITS FROM:

BUS 48 Business Law.	3
BUS 52 Creating a Virtual Office (also CIS 52)	3
BUS 55 International Business Practices	3
BUS 85 Introduction to Oral Communication	3
BUS 101 Personal Money Management.	3
BUS 115 Introduction to Banking.	3
BUS 150 Business Capstone	3
CIS 50 Applying Computer Software	3

TOTAL UNITS REQUIRED: 22-24

**GENERAL BUSINESS
A.A. OR A.S. DEGREE AND/OR CERTIFICATE OF
ACHIEVEMENT**

Successful completion of the curriculum in general business prepares students for entry-level positions in business. For the degree, students must fulfill the following major requirements with grades of "C" or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth (CSU GE) pattern; or Intersegmental General Education Transfer Curriculum (IGETC). A certificate is designed to provide career technical skills; it is not equivalent to an associate degree.

REQUIRED COURSES:

	UNITS
BUS A Elements of Accounting OR	
BUS 1 Financial Accounting I.	3
BUS 20 Introduction to Business	3
BUS 48 Business Law.	3
BUS 64 Business Mathematics	3
BUS 85 Introduction to Oral Communication OR	
BUS 102 Business Communications	3
CIS 50 Applying Computer Software OR	
CSCI 10 Introduction to Computing	3

PLUS 6 UNITS FROM:

BUS 8 Computerized Accounting for Windows.	3
BUS 40 Real Estate Principles.	3
BUS 49 Law and Society	3
BUS 55 International Business Practices	3
BUS 100 Management Concepts and Applications.	3
BUS 101 Personal Money Management.	3
BUS 115 Introduction to Banking.	3
BUS 120 Introduction to Marketing	3
BUS 150 Business Capstone	3
CIS 80 Spreadsheets in a Business Environment	3

TOTAL UNITS REQUIRED: 24

**MANAGEMENT
A.A. OR A.S. DEGREE AND/OR CERTIFICATE OF
ACHIEVEMENT**

The curriculum in Management prepares students for entry-level management positions. For the degree, students must fulfill the following major requirements with grades of "C" or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth (CSU GE) pattern; or Intersegmental General Education Transfer Curriculum (IGETC). A certificate is designed to provide career technical skills; it is not equivalent to an associate degree.

REQUIRED COURSES:

	UNITS
BUS A Elements of Accounting OR	
BUS 1 Financial Accounting I.	3
BUS 20 Introduction to Business	3
BUS 48 Business Law OR	
BUS 49 Law and Society	3
BUS 100 Management Concepts and Applications.	3
BUS 102 Business Communications	3
BUS 103 Human Resource Management	3
BUS 140 Small Business Management	3

PLUS 3 UNITS FROM:

BUS 55 International Business Practices	3
BUS 101 Personal Money Management.	3
BUS 115 Introduction to Banking.	3
BUS 120 Introduction to Marketing	3
BUS 150 Business Capstone	3
CIS 50 Applying Computer Software	3

TOTAL UNITS REQUIRED: 24

**MARKETING
A.A. OR A.S. DEGREE AND/OR CERTIFICATE OF
ACHIEVEMENT**

The curriculum in Marketing prepares students for positions as salespersons, business persons, merchandisers and marketing managers. For the degree, students must fulfill the following major requirements with grades of "C" or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth (CSU GE) pattern; or Intersegmental General Education Transfer Curriculum (IGETC). A certificate is designed to provide career technical skills; it is not equivalent to an associate degree.

REQUIRED COURSES:

	UNITS
BUS 20 Introduction to Business	3
BUS 120 Introduction to Marketing	3
BUS 121 Advertising.	3
BUS 123 Retailing.	3

BUS 124 Selling Dynamics	3
PLUS 6 UNITS FROM:	
BUS 1 Financial Accounting I	3
BUS 48 Business Law	3
BUS 55 International Business Practices	3
BUS 64 Business Mathematics	3
BUS 100 Management Concepts and Applications	3
BUS 115 Introduction to Banking	3
BUS 122 Marketing in the Digital Age	3
BUS 150 Business Capstone	3
CIS 50 Applying Computer Software OR	
CSCI 10 Introduction to Computing	3
TOTAL UNITS REQUIRED: 21	

**REAL ESTATE
A.A. OR A.S. DEGREE AND/OR CERTIFICATE OF
ACHIEVEMENT**

The curriculum in Real Estate provides individuals with the technical knowledge and academic background to be competitive in the real estate industry. Successful coursework completion allows individuals to sit for the California Real Estate Salesperson Examination. (For up-to-date licensing requirements refer to the California Department of Real Estate at <http://dre.ca.gov>.) Career opportunities in real estate and related occupations include real estate salesperson, loan processor, property manager and escrow and title officer. For the degree, students must fulfill the following major requirements with grades of "C" or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth (CU GE) pattern; or Intersegmental General Education Transfer Curriculum (IGETC). A certificate is designed to provide career technical skills; it is not equivalent to an associate degree.

REQUIRED COURSES:	UNITS
BUS A Elements of Accounting OR	
BUS 1 Financial Accounting I	3
BUS 40 Real Estate Principles	3
BUS 41 Real Estate Practice	3
BUS 47 Legal Aspects of Real Estate	3
BUS 48 Business Law	3
BUS 124 Selling Dynamics	3
PLUS 3 UNITS FROM:	
BUS 52 Creating a Virtual Office (also CIS 52)	3
BUS 64 Business Mathematics	3
BUS 85 Introduction to Oral Communication	3
TOTAL UNITS REQUIRED: 21	

**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 associate 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 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. (combined with BUS 2, C-ID ACCT 110) (CSU, UC)

BUS 2 FINANCIAL ACCOUNTING II

Units: 3

Prerequisite: Completion of BUS 1 or equivalent with a 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. (combined with BUS 1, C-ID ACCT 110) (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. (C-ID ACCT 120) (CSU, UC)

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

Study of the United States individual income tax system. 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

A survey in business providing a multidisciplinary examination of how culture, society, economic systems, legal, international, political, financial institutions and human behavior interact to affect a business organization's policy and practices within the U.S. and a global society. Demonstrates how these influences impact the primary areas of business. (C-ID BUS 110) (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. See Independent Study page in catalog. (CSU)

BUS 40 REAL ESTATE PRINCIPLES

Formerly known as REAL 74

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)

BUS 41 REAL ESTATE PRACTICE

Formerly known as REAL 75

Units: 3

Advisory: Completion of BUS 40 with grade of "C" or better

Hours: 54 lecture

Day-to-day operations in real estate, including listing, prospecting, advertising, financing, sales techniques, escrow and ethics. Helpful to those preparing for the real estate salesperson license examination. (CSU)

BUS 47 LEGAL ASPECTS OF REAL ESTATE

Formerly known as REAL 76

Units: 3

Advisory: Completion of BUS 40 with grade of "C" or better

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)

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. (C-ID BUS 125) (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: 54 lecture

Introduction to the Virtual Office Profession. 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. (not transferable)

BUS 53 MARKETING A VIRTUAL OFFICE

Also known as CIS 53

Units: 3

Advisory: Completion of BUS 52/CIS 52 and CIS 70 with grades of "C" or better

Hours: 54 lecture

Introduction to virtual marketing techniques and skills needed to obtain virtual employment positions and clients. Students identify and evaluate various employment marketing techniques such as networking, conducting virtual interviews, joining professional organizations, developing flyers and brochures, developing a professional Internet web site and using numerous Web-based resources to market skills and services. (not transferable)

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 with grades of "C" or better

Hours: 54 lecture

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, virtual business technology and teamwork skills are emphasized. (not transferable)

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 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 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 BUSINESS COMMUNICATIONS

Units: 3

Prerequisite: Completion of ENGL 1A with grade of "C" or better

Hours: 54 lecture

Ethical and effective written and oral communication principles and techniques for business situations. Planning, organizing, writing and revising business correspondence for internal and external use. Practice in preparing reports, effectively transferring information and delivering a professional-level oral business presentation. Use of word processing and presentation-graphics software. Provides students a better perspective on communication challenges in the workplace. (C-ID BUS 115) (CSU)

BUS 103 HUMAN RESOURCE MANAGEMENT

Units: 3

Advisory: Completion of ENGL A with grade of "C" or better or placement by matriculation assessment process

Hours: 54 lecture

A foundational management course for understanding how to manage human capital. Topics, practical application projects and case studies that demonstrate the importance of human resources to drive innovation and competitive advantage. Five functional areas covered include staffing, human resource development, employee relations, workplace health and safety and compensation. (CSU)

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 116 CUSTOMER SERVICE SKILLS

Units: 3

Hours: 54 lecture

Provides the student with understanding and knowledge of the importance of meeting customer needs in a service economy. Emphasis on developing specific skills and abilities critical to providing excellent customer service. Introduction to the concepts of internal and external customers, customer satisfaction and retention. Topics include communicating with customers, developing a positive attitude, handling complaints and ethical issues. (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 are covered. Brick and mortar stores, catalogs, home shopping networks and E-retailing 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

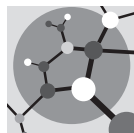
Courses of study will cover topics relevant to the discipline. Topics will vary. Course content and unit credit to be determined by the division. May be offered as seminar, lecture, or lecture/laboratory classes. Students may repeat "400" courses within a discipline only when a topic is different from 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

Course designed for older adults. Techniques are offered to manage investments during retirement; includes generating both income and growth for investments, fixed income, stocks, mutual funds, annuities. May be repeated. (noncredit)



CHEMISTRY

SCIENCES AND 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: 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 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. In all cases, students should consult with a counselor for more information on university admission and transfer requirements. Students must fulfill the following major requirements with grades of "C" or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth (CSU GE) pattern; or Intersegmental General Education Transfer Curriculum (IGETC).

REQUIRED COURSES:

	UNITS
CHEM 1A General Chemistry I OR	
CHEM 3A General Chemistry I—Part 1 AND	
CHEM 3B General Chemistry I—Part 2	5-6
CHEM 1B General Chemistry II	5
CHEM 5 Quantitative Analysis	4
CHEM 12A Organic Chemistry I	5
CHEM 12B Organic Chemistry II	5

TOTAL UNITS REQUIRED: 24-25

Recommended Electives:

MATH 30, 31, 32, PHYS 205/205L, 210/210L, 215/215L

CHEMISTRY COURSES »

CHEM A FOUNDATIONS OF COLLEGE CHEMISTRY

Units: 4

Prerequisite: Completion of first year high school algebra or MATH A with grade(s) 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 I

Units: 5

Prerequisite: Completion of high school chemistry or CHEM A with grade of "C" or better; and completion of second year high school algebra or MATH D with grade of "C" or better; and satisfactory score on the Chemistry Placement Examination

Advisory: Eligibility for ENGL 11 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 II

Units: 5

Prerequisite: Completion of CHEM 1A or CHEM 3B with grade of "C" or better

Advisory: Eligibility for ENGL 11 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 bio-chemistry through related lecture and laboratory exercises. Note: CHEM 1A/1B sequence may be started any semester. CSU, UC-with unit limitation)

CHEM 1X PROBLEM SOLVING FOR CHEMISTRY 1A

Units: 1

Prerequisite: Completion of high school chemistry or CHEM A with grade of "C" or better; and completion of second year high school algebra or MATH D with grade of "C" or better; and satisfactory score on the Chemistry Placement Examination

Corequisite: Concurrent enrollment in CHEM 1A

Advisory: Eligibility for ENGL 11 strongly recommended

Hours: 18 lecture

Optional problem solving course to accompany CHEM 1A. Students use critical thinking and problem solving strategies to solve general chemistry problems in topics that include atomic structure, the mole concept, gas laws, stoichiometry, redox, acid-base theory, equilibrium and chemical bonding. (CSU)

CHEM 1Y PROBLEM SOLVING FOR CHEMISTRY 1B

Units: 1

Prerequisite: Completion of CHEM 1A or 3B with grade of "C" or better

Corequisite: Concurrent enrollment in CHEM 1B

Advisory: Eligibility for ENGL 11 strongly recommended

Hours: 18 lecture

Optional problem solving course to accompany CHEM 1B. Students use critical thinking and problem solving strategies to solve general chemistry problems in topics that include intermolecular forces, solid state chemistry, solution chemistry, thermodynamics, electro-chemistry, nuclear chemistry, chemical kinetics and brief introductions to organic and biochemistry. (CSU)

CHEM 2A INTRODUCTION TO CHEMISTRY I

Units: 5

Prerequisite: Completion of one year high school algebra or MATH A with grade of "C" or better

Advisory: Eligibility for ENGL 1A; completion of high school chemistry or CHEM A with grade of "C" or better; completion of two years of high school algebra or MATH D with grade(s) of "C" or better

Hours: 162 (54 lecture, 108 laboratory)

Designed to meet the requirements for certain nursing, dental hygiene, physical therapy, 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 II

Units: 5

Prerequisite: Completion of CHEM 2A with 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, 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. (C-ID CHEM 102) (CSU, UC-with unit limitation)

CHEM 2X PROBLEM SOLVING FOR CHEMISTRY 2A

Units: 1

Prerequisite: Completion of one year high school algebra or MATH A with grade of "C" or better

Corequisite: Concurrent enrollment in CHEM 2A

Advisory: Eligibility for ENGL 1A; completion of high school chemistry or CHEM A with grade of "C" or better; completion of two years of high school algebra or MATH D with grade(s) of "C" or better

Hours: 18 lecture

Optional problem solving course to accompany CHEM 2A. Students use critical thinking and problem solving strategies to solve chemistry problems in topics that include atomic structure, the mole concept, gas laws, stoichiometry, redox, acid-base theory, equilibrium, nuclear chemistry and chemical bonding. (CSU)

CHEM 2Y PROBLEM SOLVING FOR CHEMISTRY 2B

Units: 1

Prerequisite: Completion of CHEM 2A with grade of "C" or better

Corequisite: Concurrent enrollment in CHEM 2B

Advisory: Eligibility for ENGL 1A

Hours: 18 lecture

Optional problem solving course to accompany CHEM 2B. Students use critical thinking and problem solving strategies to solve organic and biochemistry problems. Both lecture and discussion groups utilized. (CSU)

CHEM 3A GENERAL CHEMISTRY I—PART 1

Units: 3

Prerequisite: Completion of second year high school algebra or MATH D with grade of "C" or better

Corequisite: Concurrent enrollment in CHEM 3X

Advisory: Eligibility for ENGL 11 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. Topics covered include the mole concept, chemical nomenclature, gas laws and stoichiometry. 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 I—PART 2

Units: 3

Prerequisite: Completion of CHEM 3A with grade of "C" or better

Corequisite: Concurrent enrollment in CHEM 3Y

Advisory: Eligibility for ENGL 11 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. Topics include atomic structure, redox, acid-base theory, equilibrium and chemical bonding. This sequence fulfills the prerequisite for CHEM 1B. (CSU, UC-with unit limitation)

CHEM 3X PROBLEM SOLVING FOR CHEMISTRY 3A

Units: 2

Prerequisite: Completion of second year high school algebra or MATH D with grade of "C" or better

Corequisite: Concurrent enrollment in CHEM 3A

Advisory: Eligibility for ENGL 11 strongly recommended

Hours: 36 lecture

Problem solving course to accompany CHEM 3A. Students use critical thinking and problem solving strategies to solve general chemistry problems in topics that include the mole concept, chemical nomenclature, gas laws and stoichiometry. (pass/no pass grading) (not transferable)

CHEM 3Y PROBLEM SOLVING FOR CHEMISTRY 3B

Units: 2

Prerequisite: Completion of CHEM 3A with grade of "C" or better

Corequisite: Concurrent enrollment in CHEM 3B

Advisory: Eligibility for ENGL 11 strongly recommended

Hours: 36 lecture

Problem solving course to accompany CHEM 3B. Students use critical thinking and problem solving strategies to solve general chemistry problems in topics that include atomic structure, redox, acid-base theory, equilibrium and chemical bonding. (pass/no pass grading) (not transferable)

CHEM 5 CHEMISTRY—QUANTITATIVE ANALYSIS

Units: 4

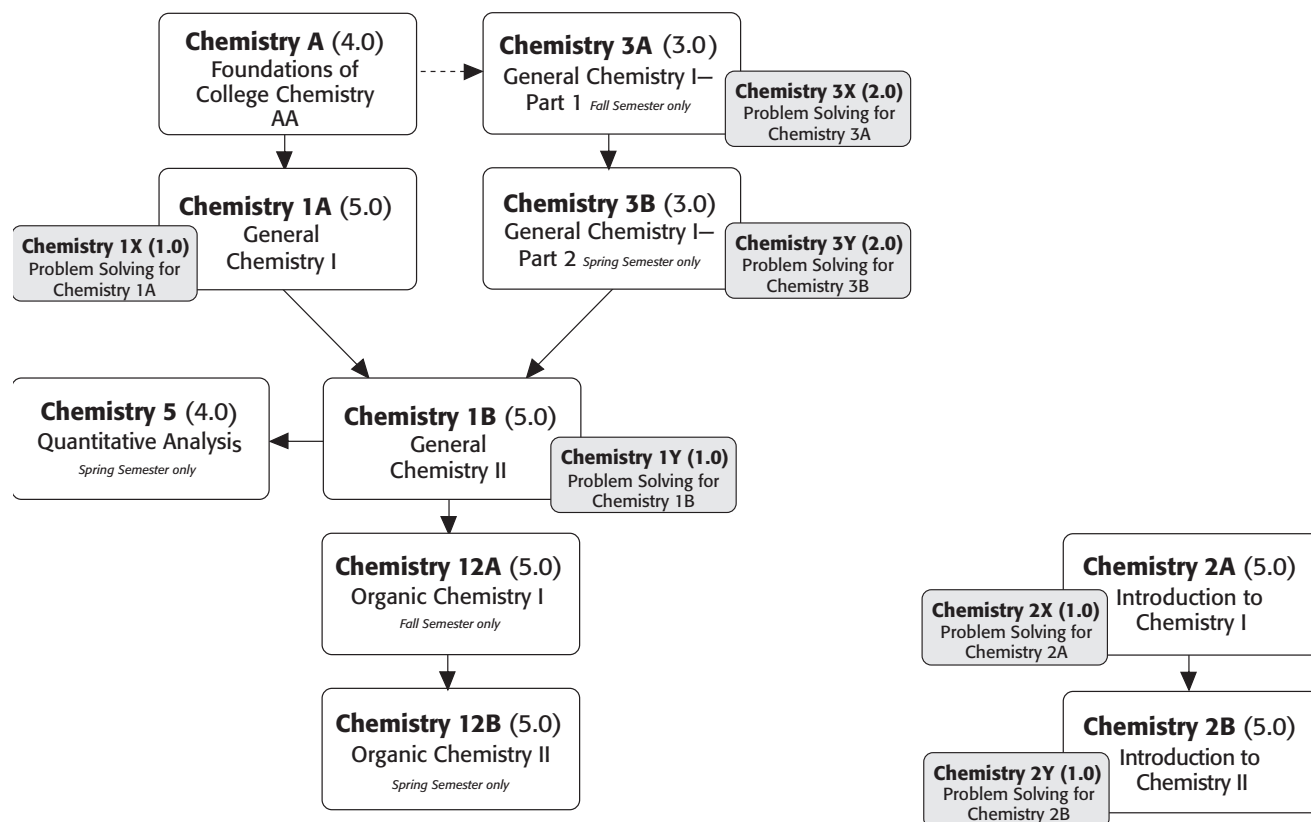
Prerequisite: Completion of CHEM 1B with grade of "C" or better

Advisory: Eligibility for ENGL 11 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)

CHEMISTRY COURSE PROGRESSION



CHEM 12A ORGANIC CHEMISTRY I*Units: 5**Prerequisite: Completion of CHEM 1B with grade of "C" or better**Advisory: Eligibility for ENGL 11 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. (C-ID CHEM 150; and, combined with CHEM 12B, C-ID CHEM 160S) (CSU, UC)

CHEM 12B ORGANIC CHEMISTRY II*Units: 5**Prerequisite: Completion of CHEM 12A with grade of "C" or better**Advisory: Eligibility for ENGL 11 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. (combined with CHEM 12A, C-ID CHEM 160S) (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. 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: Rebecca Bocchicchio

ASSOCIATE DEANS: Anne Fleischmann, Susan Lucyga

DIVISION OFFICE: W 107

FACULTY: J. Bruno, D. DeFoe, J. Vernon, M. Williams, N. Zoffel

LIAISON COUNSELORS: B. Gosney, M. Moon

The Communication Studies program focuses on how people use messages and symbols to generate meaning, critique and relate to one another across various contexts, cultures, channels and media. Providing inquiry into performances of the self and our communities, attending to issues of power and diversity and producing works of media and performance toward social justice; communication is a diverse discipline that serves as the basis for an ever-expanding understanding of how we all communicate.

Students may transfer as Communication Studies majors to the university level and/or use their education as introductory training for careers in social science, media, journalism, broadcasting, public information, media research, public opinion analysis, government and multimedia design.

COMMUNICATION STUDIES FOR TRANSFER AA-T DEGREE

Communication Studies is a broadly based discipline that includes public speaking, mass and mediated communication, journalism, interpersonal, intercultural and group communication. The degree program allows students to critically analyze information and arguments, evaluate and create effective oral and written messages, write and deliver effective presentations and formulate communication solutions to problems in professional and personal contexts. This degree program will prepare students to transfer as Communication Studies majors to the university level as well as use their education as an introduction to careers in fields such as journalism, public relations, fundraising, law, broadcasting, mediation, human resources, customer relations, business management and education.

The Associate in Arts in Communication Studies for Transfer degree (AA-T) prepares students to transfer into the CSU system to complete a bachelor's degree in Communication Studies or a major deemed similar by a CSU campus. Students earning an associate degree for transfer and meeting the CSU minimum transfer admission requirements are guaranteed admission with junior standing to the CSU system, but not to a particular campus or major. Upon transfer, students will be required to complete no more than 60 additional prescribed units to earn a bachelor's degree.

To earn the Associate in Arts in Communication Studies for Transfer degree, students must complete 60 CSU-transferable semester units with a minimum grade point average of 2.0, including both of the following:

- completion of all courses required for the major with grades of "C" or better; and
- completion of the California State University General Education

Breadth (CSU GE) pattern or the Intersegmental General Education Transfer Curriculum (IGETC) pattern.

It is highly recommended that, prior to transferring, students complete courses that satisfy the CSU United States History, Constitution and American Ideals graduation requirement. In all cases, students should consult with a counselor for more information on university admission and transfer requirements.

REQUIRED COURSE:	UNITS
COMM 1 Fundamentals of Public Speaking	3

PLUS 6 UNITS FROM:	
COMM 2 Argumentation	3
COMM 3 Group Communication	3
COMM 8 Interpersonal Communication	3

PLUS 6 UNITS FROM THE FOLLOWING OR UNUSED COURSE FROM THE PRECEDING AREA:	
COMM 7 Intercultural Communication	3
COMM 10 Survey of Communication Studies	3
COMM 70 Mass Communication: Media and Society	3

PLUS 3 UNITS FROM THE FOLLOWING OR ANY UNUSED COURSE FROM THE PRECEDING AREAS:	
COMM 5 Communication Experience	3
COMM 12 Visual Communication (also AAD 12)	3
COMM 71 Writing for the Media	3
COMM 72 Ethnography for Media	3
TOTAL UNITS REQUIRED: 18	

**JOURNALISM FOR TRANSFER
AA-T DEGREE**

The Associate in Arts in Journalism for Transfer (AA-T) degree program provides students with a strong foundation in Journalism by engaging, researching and producing works in a variety of accepted media, journalistic (AP) and performance-based styles.

The Associate in Arts in Journalism for Transfer degree (AA-T) prepares students to transfer into the CSU system to complete a bachelor's degree in Journalism, Communication with a Journalism or Media Studies concentration, or a major deemed similar by a CSU campus. Students earning an associate degree for transfer and meeting the CSU minimum transfer admission requirements are guaranteed admission with junior standing within the CSU system. Students are also given priority admission consideration to their local CSU campus but not to a particular campus or major. Upon transfer, students will be required to complete no more than 60 additional prescribed units to earn a bachelor's degree.

To earn the Associate in Arts in Journalism for Transfer degree, students must complete 60 CSU-transferable semester units with a minimum grade point average of 2.0, including both of the following:

- completion of all courses required for the major with grades of "C" or better; and
- completion of the California State University General Education Breadth (CSU GE) pattern or the Intersegmental General Education Transfer Curriculum (IGETC) pattern.

It is highly recommended that, prior to transferring, students com-

plete courses that satisfy the CSU United States History, Constitution and American Ideals graduation requirement. In all cases, students should consult with a counselor for more information on university admission and transfer requirements.

REQUIRED COURSES:	UNITS
COMM 70 Mass Communication: Media and Society	3
COMM 71 Writing for the Media	3
COMM 78 Media Practicum: Writing	3

PLUS 3 UNITS FROM:	
COMM 12 Visual Communication (also AAD 12)	3
COMM 72 Ethnography for Media	3
COMM 79 Media Practicum: Publishing	3

PLUS 6 UNITS FROM:	
COMM 1 Fundamentals of Public Speaking	3
COMM 2 Argumentation	3
COMM 3 Group Communication	3
COMM 8 Interpersonal Communication	3
COMM 10 Survey of Communication Studies	3

TOTAL UNITS REQUIRED: 18

**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. In all cases, students should consult with a counselor for more information on university admission and transfer requirements. Students must fulfill the following major requirements with grades of "C" or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth pattern; or Intersegmental General Education Transfer Curriculum (IGETC).

REQUIRED COURSES:	UNITS
COMM 1 Fundamentals of Public Speaking	3
COMM 2 Argumentation	3
COMM 3 Group Communication	3
COMM 8 Interpersonal Communication	3
COMM 70 Mass Communication: Media and Society	3
COMM 71 Writing for the Media OR	
COMM 72 Ethnography for Media	3

PLUS 9-10 UNITS FROM:	
COMM 7 Intercultural Communication	3
COMM 10 Survey of Communication Studies	3
COMM 12 Visual Communication (also AAD 12)	3
COMM 28 Independent Study	1-3
COMM 95 Internship in Communication Studies . . . . .	.5-4
CIS 100 Software for Dynamic Presentations	3

DRMA 10A Fundamentals of Acting OR
 DRMA 10B Advanced Acting 3
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 26-28 units in the major. Students must fulfill the following major requirements with grades of “C” or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth pattern; or Intersegmental General Education Transfer Curriculum (IGETC).

**REQUIRED COURSES
 21 UNITS FROM:**

COMM 1 Fundamentals of Public Speaking OR
 COMM 5 Communication Experience 3
 COMM 12 Visual Communication (also AAD 12) 3
 COMM 70 Mass Communication: Media and Society. 3
 COMM 71 Writing for the Media OR
 COMM 72 Ethnography for Media 3
 AAD 52 Publication Design I 3
 AAD 60 Graphic Design: Principles and Process 3
 AAD 62 Graphic Computer Illustration 3
 AAD 70 Introduction to Digital Design 3
 AAD 75 Introduction to Digital Imaging (also PHOT 75) 3
 ART 6C Color Theory. 3

**PLUS 5-7 UNITS FROM THE FOLLOWING, OR UNUSED
 COURSES FROM PRECEDING REQUIREMENTS:**

COMM 10 Survey of Communication Studies 3
 AAD 20 Portfolio Development and Presentation. 3
 AAD 28 Independent Study OR
 COMM 28 Independent Study. 1-3
 AAD 61 Graphic Design II: Digital Design and Production 3
 AAD 95 Internship in Applied Art and Design OR
 COMM 95 Internship in Communication Studies5-4

TOTAL UNITS REQUIRED: 26-28

**COMMUNICATION STUDIES—
 MASS COMMUNICATION/MULTIMEDIA
 CONCENTRATION
 A.A. OR A.S. DEGREE**

**(FORMERLY COMMUNICATION STUDIES—MULTIMEDIA
 CONCENTRATION)**

The A.A./A.S. degree in Communication Studies, Mass Communication/Multimedia Concentration requires 28-30 units in the major. Students must fulfill the following major requirements with grades of “C” or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth pattern; or Intersegmental General Education Transfer Curriculum (IGETC).

REQUIRED COURSES: UNITS

COMM 1 Fundamentals of Public Speaking OR
 COMM 5 Communication Experience 3
 COMM 31A Introduction to Video Production (also AAD 79) . . . 3
 COMM 70 Mass Communication: Media and Society. 3
 COMM 71 Writing for the Media OR
 COMM 72 Ethnography for Media 3
 AAD 80 Introduction to Video Editing 4
 AAD 85 Introduction to Web Design. 3
 AAD 90 Interactivity and Animation for the Web. 4

PLUS 5-7 UNITS FROM:

COMM 10 Survey of Communication Studies 3
 COMM 12 Visual Communication (also AAD 12) 3
 COMM 28 Independent Study OR
 AAD 28 Independent Study. 1-3
 AAD 70 Introduction to Digital Design OR
 AAD 75 Introduction to Digital Imaging (also PHOT 75) 3
 COMM 95 Internship in Communication Studies OR
 AAD 95 Internship in Applied Art and Design5-4

TOTAL UNITS REQUIRED: 28-30

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. (C-ID COMM 110) (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. (C-ID COMM 120) (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. (C-ID COMM 140) (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: Eligibility for ENGL 1A or ESL 40W

Hours: 54 lecture

A study of research and theory of communication between cultures. Emphasis on knowledge, motivation and skill to recognize and achieve competence in intercultural communication in a variety of contexts: academic, professional and personal. Topics of examination include historical influences of cultures, cultural patterns, societal perspectives and contexts for theoretical and practical application of intercultural communication skills. (C-ID COMM 150) (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. (C-ID COMM 130) (CSU, UC)

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. (C-ID COMM 180) (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, mass media and persuasion. Historical overview of visual media as well as current trends and technology. (C-ID JOUR 170) (CSU, UC)

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. See Independent Study page in catalog. (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. (CSU)

COMM 70 MASS COMMUNICATION: MEDIA AND SOCIETY

Formerly known as COMM 15

Units: 3

Hours: 54 lecture

Survey of mass communication and the interrelationships of media with society including history, structure and trends in a digital age. Discussion of theories and effects, economics, technology, law and ethics, global media, media literacy and social issues, including gender, cultural diversity, the impact of media on the self, culture, social and political discourse and public policy. (C-ID JOUR 100) (CSU, UC)

COMM 71 WRITING FOR THE MEDIA

Formerly known as COMM 21

Units: 3

Prerequisite: Eligibility for ENGL 1A or ESL 40W

Hours: 54 lecture

An introduction to gathering, synthesizing/organizing and writing news in various journalistic and media styles across multiple platforms. Includes role journalists play in relating voice and agency, as well as evaluating legal issues and ethical implications. Introduction to the role of reporting and writing based on original interviews, story telling and research to produce content and define context. Covers the history of journalism and the effects of mass communication and media on the self and broader cultures and society. (C-ID JOUR 110) (CSU, UC)

COMM 72 ETHNOGRAPHY FOR MEDIA

Formerly known as COMM 30

Units: 3

Prerequisite: Eligibility for ENGL 1A or ESL 40W

Advisory: Completion with grade of "C" or better or concurrent enrollment in ENGL 1B and COMM 71

Hours: 54 lecture

Introduction to multimedia storytelling with journalism emphasis (focusing on investigative processes used in journalistic, performative and ethnomethod storytelling). Hands-on practice in exploring, critiquing, writing and producing media content, including the use of video, photography, audio and text. Through writing and digital storytelling this course explores the techniques that individuals use in everyday interactions in order to communally make meaning through research/synthesis, media and to conduct the all-important business of "everyday life." (CSU)

COMM 78 MEDIA PRACTICUM: WRITING

Units: 3

Prerequisite: Eligibility for ENGL 1A or ESL 40W; completion with grade of "C" or better or concurrent enrollment in COMM 70

Advisory: Completion with grade of "C" or better, or concurrent enrollment in, ENGL 1B or 1C

Hours: 72 (36 lecture, 36 activity)

Application of the principles of Journalism and Communication Studies to develop work for distribution to a campus and community audience. Includes weekly assignments to access a variety of student media across multiple platforms, including print, podcast, radio and online, to develop news and non-fiction feature products. Practical experience in visual communication, online setting, multimedia journalism and emerging mass-communication technologies. (C-ID JOUR 130) (CSU)

COMM 79 MEDIA PRACTICUM: PUBLISHING

Units: 3

Prerequisite: Completion of COMM 78 with grade of "C" or better
Advisory: Completion with grade of "C" or better, or concurrent enrollment in ENGL 1B or 1C

Hours: 72 (36 lecture, 36 activity)

Intermediate student media practicum that regularly produces a news or feature non-fiction product with a communication and/or media emphasis by and for students and distributed to a campus or community audience. Includes weekly news assignments that provide practical experience in design/layout, visual, online, multimedia journalism, emerging technologies and performance. May include a variety of student media across multiple platforms, including print, broadcast, podcast, radio and online. (C-ID JOUR 131) (CSU)

COMM 95 INTERNSHIP IN COMMUNICATION STUDIES

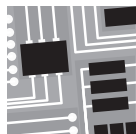
Units: 0.5-4

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)



COMPUTER INFORMATION SYSTEMS

SYSTEMS

(Also see Business and Computer Science)

BUSINESS AND TECHNOLOGY

DEAN: Sonja Lolland
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, N. Martinis, 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— TECHNICAL SUPPORT CONCENTRATION A.A. OR A.S. DEGREE AND/OR CERTIFICATE OF ACHIEVEMENT

(FORMERLY COMPUTER INFORMATION SYSTEMS— ADMINISTRATIVE TECHNICAL SUPPORT)

The Technical Support concentration prepares students for positions as computer applications installers/trainers and technically oriented administrative personnel. For the degree, students must fulfill the following major requirements with grades of "C" or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth (CSU GE) pattern; or Intersegmental General Education Transfer Curriculum (IGETC). A certificate is designed to provide career technical skills; it is not equivalent to an associate degree.

REQUIRED COURSES:	UNITS
CIS 62 Business Information Systems	3
CIS 65 Networking Fundamentals	3
CIS 70 Word Processing-Beyond the Basics.	3
CIS 80 Spreadsheets in a Business Environment	3
CIS 90 Database Management	3
CIS 105 Microsoft Outlook-Managing Information	3

CIS 141 Installing, Configuring and Administering Microsoft Client OS OR	
BUS 116 Customer Service Skills	3

PLUS 6-7 UNITS FROM:

BUS 102 Business Communications	3
CIS 67 Foundations for Creating Web Pages	3
CIS 95 Internship in Computer Information Systems . . . . .	.5-4
CIS 100 Software for Dynamic Presentations	3
CIS 120 Creating Business Graphics with Microsoft Publisher. . .	3
CIS 136 Project Management Concepts and Software.	3

TOTAL UNITS REQUIRED: 27-28

COMPUTER INFORMATION SYSTEMS— COMPUTER APPLICATIONS CONCENTRATION A.A. OR A.S. DEGREE AND/OR CERTIFICATE OF ACHIEVEMENT

The Computer Applications concentration prepares students for positions as entry-level users of current computer applications including programs for processing and presenting text, numerical data and graphics. For the degree, students must fulfill the following major requirements with grades of "C" or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth (CSU GE) pattern; or Intersegmental General Education Transfer Curriculum (IGETC). A certificate is designed to provide career technical skills; it is not equivalent to an associate degree.

REQUIRED COURSES:

REQUIRED COURSES:	UNITS
BUS 102 Business Communications	3
CIS 50 Applying Computer Software	3
CIS 70 Word Processing-Beyond the Basics.	3
CIS 80 Spreadsheets in a Business Environment	3
CIS 100 Software for Dynamic Presentations	3
CIS 120 Creating Business Graphics with Microsoft Publisher. . .	3

PLUS 5-7 UNITS FROM:

BUS 116 Customer Service Skills	3
CIS 30 Fundamental Computer Concepts and Applications . . .	3
CIS 62 Business Information Systems	3
CIS 67 Foundations for Creating Web Pages	3
CIS 90 Database Management	3
CIS 95 Internship in Computer Information Systems . . . . .	.5-4
CIS 105 Microsoft Outlook-Managing Information	3
CIS 136 Project Management Concepts and Software.	3

TOTAL UNITS REQUIRED: 23-25

**COMPUTER INFORMATION SYSTEMS—
NETWORKING CONCENTRATION
A.A OR A.S. DEGREE AND/OR CERTIFICATE OF
ACHIEVEMENT**

**(FORMERLY COMPUTER SERVICE TECHNOLOGY-
NETWORKING CONCENTRATION)**

Successful completion of the curriculum in the Networking concentration prepares students for positions as network administrators and other network personnel. Many of the courses also help prepare students for the Microsoft Certification exams needed for achieving MCSA, MCSE and MCDBA. For the degree, students must fulfill the following major requirements with grades of "C" or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth (CSU GE) pattern; or Intersegmental General Education Transfer Curriculum (IGETC). A certificate is designed to provide career technical skills; it is not equivalent to an associate degree.

REQUIRED COURSES:

	UNITS
BUS 102 Business Communications	3
CIS 62 Business Information Systems	3
CIS 65 Networking Fundamentals	3
CIS 141 Installing, Configuring and Administering Microsoft Client OS	3
CIS 142 Installing, Configuring and Administering a Secure Windows Server	3
CSCI 50 Introduction to Unix/Linux	3

PLUS 9-10 UNITS FROM:

CIS 26 Preparation for A+ Certification	3
CIS 88 Computer Forensics (also ADMJ 88)	3
CIS 90 Database Management	3
CIS 95 Internship in Computer Information Systems .....	.5-4
CIS 136 Project Management Concepts and Software	3
CIS 143 Managing a Windows Network Environment	3
CIS 147 Internet and Intranet Security	3
CIS 149 Database Administration in a Client/Server Environment	3
CSCI 52 Introduction to SQL	3

TOTAL UNITS REQUIRED: 27-28

**VIRTUAL OFFICE PROFESSIONAL—
ADMINISTRATIVE CONCENTRATION
A.A. OR A.S. DEGREE AND/OR CERTIFICATE OF
ACHIEVEMENT**

Successful completion of the Virtual Office Professional-Administrative concentration prepares students for starting virtual office/home office/traditional businesses, addressing issues of creating, marketing and managing businesses. 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, communication through the use of advanced technologies and ethical business practices. For the degree, students must fulfill the following major requirements with grades of "C" or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth (CSU GE) pattern; or Intersegmental General Education Transfer Curriculum (IGETC). A certificate is designed to provide career technical skills; it is not equivalent to an associate degree.

REQUIRED COURSES:

	UNITS
BUS 102 Business Communications	3
BUS 140 Small Business Management	3
CIS 52 Creating a Virtual Office (also BUS 52)	3
CIS 53 Marketing a Virtual Office (also BUS 53)	3
CIS 54 Managing a Virtual Office (also BUS 54)	3
CIS 70 Word Processing-Beyond the Basics	3
CIS 95 Internship in Computer Information Systems OR BUS 95 Internship in Business	1-3

PLUS 9 UNITS FROM:

BUS B Accounting and Finance for the Small Business Owner ..	3
BUS 8 Computerized Accounting for Windows	3
BUS 55 International Business Practices	3
BUS 85 Introduction to Oral Communication	3
BUS 116 Customer Service Skills	3
BUS 122 Marketing in the Digital Age	3
CIS 62 Business Information Systems	3
CIS 67 Foundations for Creating Web Pages	3
CIS 80 Spreadsheets in a Business Environment	3
CIS 90 Database Management	3
CIS 100 Software for Dynamic Presentations	3
CIS 105 Microsoft Outlook-Managing Information	3
CIS 120 Creating Business Graphics with Microsoft Publisher ..	3
CIS 136 Project Management Concepts and Software	3

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.

**DIGITAL LITERACY
SKILLS CERTIFICATE
(FORMERLY COMPUTER BASICS)**

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 skills certificate is designed to provide career technical skills; it is not equivalent to an associate degree.

REQUIRED COURSES:	UNITS
BUS 116 Customer Service Skills	3
CIS 30 Fundamental Computer Concepts and Applications	3
CIS 50 Applying Computer Software	3
SKDV 10 How to be a Successful Online Student	1
TOTAL UNITS REQUIRED: 10	

**INFORMATION ASSURANCE TECHNICIAN
(LEVEL 1)
SKILLS CERTIFICATE**

This skills certificate aligns with the requirements developed by the Department of Defense relative to its Directive 8570.1 for achieving Information Assurance Technician Level 1 (IAT-1) status. Students are prepared for a wide variety of positions in the computer industry such as desktop support technician, level 1 and level 2 help desk support, customer service specialist and network administrator. A skills certificate is designed to provide career technical skills; it is not equivalent to an associate degree.

REQUIRED COURSES:	UNITS
CIS 26 Preparation for A+ Certification OR	
CIS 65 Networking Fundamentals	3
CIS 141 Installing, Configuring and Administering Microsoft Client OS	3
TOTAL UNITS REQUIRED: 6	

**INFORMATION ASSURANCE TECHNICIAN
(LEVEL 2)
SKILLS CERTIFICATE**

This skills certificate aligns with the requirements developed by the Department of Defense relative to its Directive 8570.1 for achieving Information Assurance Technician Level 2 (IAT-2) status. Students are prepared for a wide variety of positions in the computer industry such as network administrator, internet security specialist, network analyst, systems administrator and database administrator. A skills certificate is designed to provide career technical skills; it is not equivalent to an associate degree.

REQUIRED COURSES:	UNITS
CIS 142 Installing, Configuring and Administering A Secure Windows Server OR	
CSCI 50 Introduction to Unix/Linux	3
CIS 147 Internet and Intranet Security	3
TOTAL UNITS REQUIRED: 6	

**COMPUTER INFORMATION SYSTEMS
COURSES »**

CIS 26 PREPARATION FOR A+ CERTIFICATION

Formerly known as CST 30
Units: 3
Advisory: Completion of MECH 25 with grade of "C" or better recommended
Hours: 72 (54 lecture, 18 laboratory)

Focuses 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. 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 50 APPLYING COMPUTER SOFTWARE

Units: 3
Advisory: Completion of CIS 30 with grade of "C" or better
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 and online tools; transmitting files via the Internet. Introduction to common computer hardware and software system concepts; impact of computers on society, ethics, networks and security. (CSU)

CIS 52 CREATING A VIRTUAL OFFICE

Also known as BUS 52

Units: 3

Advisory: Eligibility for ENGL 1A or ESL 40W

Hours: 54 lecture

Introduction to the Virtual Office Profession. 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. (not transferable)

CIS 53 MARKETING A VIRTUAL OFFICE

Also known as BUS 53

Units: 3

Advisory: Completion of BUS 52/CIS 52 and CIS 70 with grades of "C" or better

Hours: 54 lecture

Introduction to virtual marketing techniques and skills needed to obtain virtual employment positions and clients. Students identify and evaluate various employment marketing techniques such as networking, conducting virtual interviews, joining professional organizations, developing flyers and brochures, developing a professional Internet web site and using numerous Web-based resources to market skills and services. (not transferable)

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 with grades of "C" or better

Hours: 54 lecture

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, virtual business technology and teamwork skills are emphasized. (not transferable)

CIS 62 BUSINESS INFORMATION SYSTEMS

Units: 3

Advisory: Eligibility for ENGL 1A

Hours: 72 (54 lecture, 18 laboratory)

Examination of information systems and their role in business. Focus on information systems, database management systems, networking, e-commerce, ethics and security, computer systems hardware and software components. Application of these concepts and methods through hands-on projects developing computer-based solutions to business problems. (C-ID BUS 140 and C-ID ITIS 120) (CSU)

CIS 65 NETWORKING FUNDAMENTALS

Formerly known as CST 40

Units: 3

Advisory: Completion of CSCI 10 or CIS 50 with grade of "C" or better

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, internetworking and virtualization. Laboratory assignments focus on building and configuring LANs using the most recent versions of Microsoft's server and client operating systems and other vendor products. (CSU)

CIS 67 FOUNDATIONS FOR CREATING WEB PAGES

Units: 3

Advisory: Completion of CIS 50 with grade of "C" or better

Hours: 54 lecture

Introduction to building Web pages using HTML and basic Web-authoring software; technical and design concepts behind Web pages: how the Internet works, connection technologies, Web search techniques, evaluating Web pages, file transfer and management, file compression, browser tips and tricks, mailing lists, Internet security. (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 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 with grade of "C" or better

Hours: 54 lecture

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 120 CREATING BUSINESS GRAPHICS WITH MICROSOFT PUBLISHER

Units: 3

Advisory: Completion of CIS 50 or 70 with grade of "C" or better

Hours: 54 lecture

Designed to assist the office professional in utilizing 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 136 PROJECT MANAGEMENT CONCEPTS AND SOFTWARE

Formerly known as the combination of CIS 135 and 136

Units: 3

Hours: 72 (54 lecture, 18 laboratory)

Explores Project Management concepts and terminologies along with the use of Microsoft Office Project and other project management tools through discussions, hands-on exercises and classroom learning experiences. Includes WBS, budgeting and resource allocation and other important PM topics such as Scope and Project Team Development. Helps prepare students to use the software package in their daily duties as a project manager or project assistant. (not transferable)

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 AND ADMINISTERING A SECURE WINDOWS SERVER

Formerly known as CST 50

Units: 3

Prerequisite: Completion of CIS 141 with grade of "C" or better 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

Advisory: Completion of CIS 142 with grade of "C" or better

Hours: 72 (54 lecture, 18 laboratory)

Knowledge and skills required for Network Administrators and Information Technology Professionals to be aware of security vulnerabilities, to implement security measures, to analyze an existing network environment in consideration of known security threats or risks, to defend against attacks or viruses and to ensure data privacy and integrity. Terminology and procedures for implementation and configuration of security, including access control, authorization, encryption, packet filters, firewalls and Virtual Private Networks (VPNs). Course is mapped to meet the objectives of the CompTIA Security+ certification exam. (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 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 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 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)

CIS 421 VIRTUALIZATION CONCEPTS AND TECHNOLOGIES

Units: 3

Advisory: Completion of CIS 65 with grade of "C" or better

Hours: 72 (54 lecture, 18 laboratory)

Knowledge and skills necessary to understand and implement Virtualization Concepts. The core concepts of creating and managing virtual machines, network servers and network design presented. Labs demonstrate benefits associated with virtualization such as fault tolerance and high availability. Successful completion of the class meets the educational requirement for VMware certification. (not transferable)

CIS 601 COMPUTER BASICS

Formerly known as CIS 1

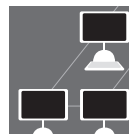
Units: 3

Hours: 72 (54 lecture, 18 laboratory)

Basic hands-on introduction for new computer users: turning on the computer, operating a mouse, using data storage. Extensive hands-on practice. Includes basic terminology, simple word processing, email and web browsing. (not degree applicable)

COMPUTER INTEGRATED ELECTRONICS

(See Mechatronics)



COMPUTER SCIENCE

(Also see Computer Information Systems and Mechatronics)

BUSINESS AND TECHNOLOGY

DEAN: Sonja Lolland

ASSOCIATE DEAN: Darlene Jackson

DIVISION OFFICE: B 3

FACULTY: B. Brown, B. Cole, M. Dobeck

LIAISON COUNSELORS: N. Martinis, Reyes Ortega

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 FOR TRANSFER AS-T DEGREE

The Associate in Science in Computer Science for Transfer degree (AS-T) program provides students with a strong foundation in Computer Science. Upon completion of the program, students will demonstrate an ability to analyze problems and craft appropriate algorithmic solutions; apply knowledge of computing and mathematics appropriate to the discipline; interpret data, think critically and apply the scientific method; research and assess new ideas and information; and interpret technical information, as well as listen effectively to, communicate orally with and write clearly for a wide range of audiences.

The Associate in Science in Computer Science for Transfer degree (AS-T) prepares students to transfer into the CSU system to complete a bachelor's degree in Computer Science or a major deemed similar by a CSU campus. Students earning an associate degree for transfer and meeting the CSU minimum transfer admission requirements are guaranteed admission with junior standing to the CSU system, but not to a particular campus or major. Upon transfer, students will be required to complete no more than 60 additional prescribed units to earn a bachelor's degree.

To earn the Associate in Science in Computer Science for Transfer degree, students must complete 60 CSU-transferable semester units with a minimum grade point average of 2.0, including both of the following:

- completion of all courses required for the major with grades of "C" or better; and
- completion of the Intersegmental General Education Transfer Curriculum (IGETC) pattern.

NOTE: The California State University General Education Breadth pattern (CSU GE) is NOT an option for this degree.

It is highly recommended that, prior to transferring, students complete courses that satisfy the CSU United States History, Constitution and American Ideals graduation requirement. In all cases, students should consult with a counselor for more information on university admission and transfer requirements.

REQUIRED COURSES:	UNITS
CSCI 12 Programming Concepts and Methodology I	3
CSCI 13 Programming Concepts and Methodology II.	3
CSCI 26 Discrete Structures for Computer Science.	3
CSCI 39 Introduction to Computer Architecture and Assembly Language.	3
MATH 30 Analytical Geometry and Calculus I	4
MATH 31 Analytical Geometry and Calculus II.	4
PHYS 205 Principles of Physics: Mechanics.	4
PHYS 205L Principles of Physics Laboratory: Mechanics	1
PHYS 210 Principles of Physics: Electricity and Magnetism	3
PHYS 210L Principles of Physics Laboratory: Electricity and Magnetism	1

TOTAL UNITS REQUIRED: 29

NOTE: IGETC is the only approved general education pattern for the Computer Science for Transfer degree. (CSU GE is NOT an approved option.)

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. In all cases, students should consult with a counselor for more information on university admission and transfer requirements. Students must fulfill the following major requirements with grades of "C" or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth (CSU GE) pattern; or Intersegmental General Education Transfer Curriculum (IGETC).

REQUIRED COURSES:	UNITS
CSCI 12 Programming Concepts and Methodology I	3
CSCI 13 Programming Concepts and Methodology II.	3
CSCI 26 Discrete Structures for Computer Science.	3
CSCI 39 Introduction to Computer Architecture and Assembly Language.	3
CSCI 50 Introduction to Unix/Linux	3
CSCI 62 Web Programming I.	3

PLUS 9 UNITS FROM:

CSCI 21 The Game Development Process	3
CSCI 27 Visual Basic .NET Programming I	3
CSCI 46 System Programming with C.	3
CSCI 52 Introduction to SQL	3
CSCI 54 Visual Basic .NET Programming II.	3
CSCI 55 ASP.NET Programming.	3

CSCI 63 Web Programming II	3
CSCI 66 Object-Oriented Programming Using C++	3
CSCI 76A Game Programming	3
CSCI 79 Mobile Device 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 the following major requirements with grades of "C" or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth (CSU GE) pattern; or Intersegmental General Education Transfer Curriculum (IGETC).

REQUIRED COURSES:	UNITS
CSCI 10 Introduction to Computing	3
CSCI 27 Visual Basic .NET Programming I	3
CSCI 50 Introduction to Unix/Linux	3
CSCI 52 Introduction to SQL	3
CSCI 54 Visual Basic .NET Programming II.	3
CSCI 62 Web Programming I.	3
CIS 65 Networking Fundamentals	3

PLUS 6 UNITS FROM:

CSCI 12 Programming Concepts and Methodology I	3
CSCI 46 System Programming with C.	3
CSCI 55 ASP.NET Programming.	3
CSCI 59P Web Programming with PHP	3
CSCI 59R Ruby on Rails	3
CSCI 63 Web Programming II	3
CSCI 79 Mobile Device Programming.	3

TOTAL UNITS REQUIRED: 27

COMPUTER SCIENCE— EMBEDDED SYSTEMS CONCENTRATION CERTIFICATE OF ACHIEVEMENT

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 associate degree.

REQUIRED COURSES:	UNITS
CSCI 12 Programming Concepts and Methodology I	3
CSCI 26 Discrete Structures for Computer Science	3
CSCI 39 Introduction to Computer Architecture and Assembly Language	3
CSCI 46 System Programming with C	3
CSCI 79 Mobile Device Programming	3
MECH 10 Fundamentals of Electronics	4
TOTAL UNITS REQUIRED: 19	

COMPUTER SCIENCE— WEB PROGRAMMING CONCENTRATION CERTIFICATE OF ACHIEVEMENT

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 associate degree.

REQUIRED COURSES:	UNITS
CSCI 55 ASP.NET Programming	3
CSCI 59P Web Programming with PHP	3
CSCI 59R Ruby on Rails	3
CSCI 62 Web Programming I	3
CSCI 63 Web Programming II	3
CSCI 79 Mobile Device Programming	3
TOTAL UNITS REQUIRED: 18	

COMPUTER SCIENCE COURSES »

COMPUTER SCIENCE COURSES »

CSCI 10 INTRODUCTION TO COMPUTING

Units: 3
Advisory: Completion of MATH A with grade of "C" or better
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 robotics, computer security and artificial intelligence. (CSU, UC)

CSCI 12 PROGRAMMING CONCEPTS AND METHODOLOGY I

Units: 3
Prerequisite: Completion of CSCI 10 with grade of "C" or better
Hours: 72 (54 lecture, 18 laboratory)
Introduces the discipline of computer science using a high level language utilizing programming and practical hands-on problem solving. (C-ID COMP 122) (CSU, UC)

CSCI 13 PROGRAMMING CONCEPTS AND METHODOLOGY II

Units: 3
Prerequisite: Completion of CSCI 12 with grade of "C" or better
Hours: 72 (54 lecture, 18 laboratory)
Application of software engineering techniques to the design and development of large programs; data abstraction and structures and associated algorithms. (C-ID COMP 132) (CSU, UC)

CSCI 21 THE GAME DEVELOPMENT PROCESS

Units: 3
Advisory: Completion of MATH D with grade of "C" or better
Hours: 72 (54 lecture, 18 laboratory)
Introduction to the history, technology, ethics and design of computer games. A generally accessible course about the process of creating computer games from concept to implementation, including documentation, storyboards, character design, gameplay, animation and marketing. Students use these concepts to create a complete 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 12 and MATH 12 with grades of "C" or better
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, graph theory, circuit design and minimization and computer arithmetic. (C-ID COMP 152) (CSU, UC)

CSCI 27 VISUAL BASIC .NET PROGRAMMING I

Units: 3
Prerequisite: Completion of CSCI 10 with grade of "C" or better
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 and printing. 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 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. 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
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; digital logic. Programs are designed, coded, tested and debugged. (C-ID COMP 142) (CSU, UC)

CSCI 46 SYSTEM PROGRAMMING WITH C

Units: 3

Prerequisite: Completion of CSCI 12 with grade of "C" or better
Advisory: Completion of CSCI 50 with grade of "C" or better
Hours: 72 (54 lecture, 18 laboratory)

Introduction to the C language and system programming on a Unix-like operating system. Topics include the standard C library, memory allocation, file I/O, permissions, system calls and process management. Development in a Unix environment will cover editors, shell scripting, makefiles, source code control and networking. (CSU, UC)

CSCI 50 INTRODUCTION TO UNIX/LINUX

Units: 3

Prerequisite: Completion of CSCI 10 with grade of "C" or better
Hours: 72 (54 lecture, 18 laboratory)

An introduction to the Unix and Linux operating systems with an emphasis on system programming. Topics include the filesystem, permissions, regular expressions, processes, networking, basic system administration and shell scripting. Extensive hands-on experience using the command line interface. (CSU, UC)

CSCI 52 INTRODUCTION TO SQL

Units: 3

Prerequisite: Completion of CSCI 10 with grade of "C" or better
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 with grade of "C" or better
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 with grade of "C" or better
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 27 with grade of "C" or better

Advisory: Completion of CSCI 62 with grade of "C" or better
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 RUBY ON RAILS

Units: 3

Prerequisite: Completion of CSCI 12 or CSCI 27 with grade of "C" or better

Advisory: Completion of CSCI 62 with grade of "C" or better
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. 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. (not transferable)

CSCI 62 WEB PROGRAMMING I

Units: 3

Prerequisite: Completion of CSCI 10 with grade of "C" or better
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) and Extensible HyperText Markup Language (XHTML). 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 with grade of "C" or better

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 66 OBJECT-ORIENTED PROGRAMMING USING C++

Units: 3

Prerequisite: Completion of CSCI 12 with grade of "C" or better

Advisory: Completion of CSCI 46 with grade of "C" or better

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 76A GAME PROGRAMMING

Units: 3

Prerequisite: Completion of CSCI 12 with grade of "C" or better

Advisory: Completion with grade of "C" or better or concurrent enrollment in CSCI 13

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 79 MOBILE DEVICE PROGRAMMING

Formerly known as CSCI 309

Units: 3

Prerequisite: Completion of CSCI 12 with grade of "C" or better

Hours: 72 (54 lecture, 18 laboratory)

Introduction to creating applications for mobile devices including Apple iPhone, iPad and Google Android. Topics include touch interfaces, GUI elements, sensor input, simple animation and game play, network communication and database access. (CSU)

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 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 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 AND ENERGY TECHNOLOGY

BUSINESS AND TECHNOLOGY

DEAN: Sonja Lolland

ASSOCIATE DEAN: Darlene Jackson

DIVISION OFFICE: B 3

FACULTY: S. Geiger

LIAISON COUNSELORS: D. Quadros, T. Times

The Construction and Energy Technology curriculum is designed to give students a broad knowledge of the construction and energy industries. Coursework includes job safety, construction skills, work ethics and hands-on laboratory courses to provide trade related skills such as electrical, plumbing, carpentry and photovoltaics. The program provides foundational training for construction management programs as well as training for entry-level employment in the construction industries. The energy and photovoltaics courses provide the fundamental skills needed to excel in an energy sector career. In addition to degree and transfer opportunities, skills certificates are available in the field of photovoltaics.

**ENERGY TECHNOLOGY
A.S. DEGREE**

The Energy Technology program prepares students for jobs in the field of renewable energy, such as solar power installation, site supervision, sales, system maintenance and management. Students receive a background in sustainability while gaining specific technical skills related to renewable energy installation. As students complete courses for the degree, they also qualify for two skills certificates in photovoltaics and are prepared to sit for the NABCEP Entry Level Exam. Students must fulfill the following major requirements with grades of "C" or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth pattern; or Intersegmental General Education Transfer Curriculum (IGETC).

REQUIRED COURSES:	UNITS
CET 40 Beginning Photovoltaic Systems	4
CET 42 Intermediate Photovoltaic Systems	4
CET 44 Advanced Photovoltaic Systems.....	4
DES 20 Architectural Drawing I	3
ESS 1 The Environment and the Human Impact.....	3
ESS 7 Energy, Environment and Climate (also ESCI 7).....	3

PLUS 6-8 UNITS FROM:

CET 22 Introduction to Energy Efficiency Construction.....	3
CET 24 Fundamentals of Construction Documents and Estimating	3
CET 26 Residential House Wiring and Codes.....	3
CET 32 Residential Building Codes.....	3
DES 21 Architectural Drawing II	3
ESS 10 Conservation of Natural Resources	3
MECH 4 Fundamentals of Mechatronics	4
MECH 10 Fundamentals of Electronics.....	4

TOTAL UNITS REQUIRED: 27-29

**RESIDENTIAL BUILDING CONSTRUCTION
A.A. OR A.S. DEGREE AND/OR CERTIFICATE OF ACHIEVEMENT**

The curriculum in Residential Building Construction prepares students for entry-level building construction positions, such as carpenter, electrician, plumber and estimator. Credit for up to one and one-half years of the contractor's examination experience requirement may be granted by the Contractors State License Board for completion of the Residential Building Construction degree. For the degree, students must fulfill the following major requirements with grades of "C" or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth pattern; or Intersegmental General Education Transfer Curriculum (IGETC). A certificate is designed to provide career technical skills; it is not equivalent to an associate degree.

REQUIRED COURSES:	UNITS
CET 1 OSHA Construction Safety Training	1
CET 3 Basics of Construction and Woodworking.....	3
CET 5 Introduction to the Built Environment.....	3
CET 20 Foundations and Framing.....	3
CET 22 Introduction to Energy Efficiency Construction.....	3
CET 24 Fundamentals of Construction Documents and Estimating	3

CET 26 Residential House Wiring and Codes.....	3
CET 30 Finish Carpentry.....	3
CET 34 Plumbing Installation and Design	3

PLUS 6-8 UNITS FROM:

CET 7 Materials of Construction	4
CET 32 Residential Building Codes.....	3
CET 40 Beginning Photovoltaic Systems	4
CET 42 Intermediate Photovoltaic Systems	4
CET 44 Advanced Photovoltaic Systems.....	4
CET 50 Interior and Exterior Finishing.....	3
CET 60 Production Cabinetry (Traditional).....	3
CET 70A Advanced Skill and Speed Development—Concrete ...	3
CET 70B Advanced Skill and Speed Development—Framing . . .	3
CET 70C Skill and Speed Development-Cabinetry and Furniture	3
DES 20 Architectural Drawing I.....	3
DES 21 Architectural Drawing II	3

TOTAL UNITS REQUIRED: 31-33

PHOTOVOLTAIC SKILLS CERTIFICATE

(FORMERLY OFFERED IN THE ENVIRONMENTAL STUDIES AND SUSTAINABILITY DEPARTMENT)

The purpose of the Photovoltaic Skills Certificate is to provide students with the knowledge and skills required to obtain employment as Photovoltaic System Installers and Technicians. Emphasis is on the critical skill competencies as recommended by the North American Board of Certified Energy Practitioners for entry level photovoltaic systems work. A skills certificate is designed to provide career technical skills; it is not equivalent to an associate degree.

REQUIRED COURSES:	UNITS
CET 40 Beginning Photovoltaic Systems	4
CET 42 Intermediate Photovoltaic Systems	4
TOTAL UNITS REQUIRED: 8	

PHOTOVOLTAIC ADVANCED SKILLS CERTIFICATE

(FORMERLY OFFERED IN THE ENVIRONMENTAL STUDIES AND SUSTAINABILITY DEPARTMENT)

The purpose of the Photovoltaic Advanced Skills Certificate is to provide students with the knowledge and skills required to obtain employment as Photovoltaic System Installers, Technicians and entry-level Designers. Emphasis is on the critical skill competencies as recommended by the North American Board of Certified Energy Practitioners. A skills certificate is designed to provide career technical skills; it is not equivalent to an associate degree.

REQUIRED COURSES:	UNITS
CET 40 Beginning Photovoltaic Systems	4
CET 42 Intermediate Photovoltaic Systems	4
CET 44 Advanced Photovoltaic Systems	4
TOTAL UNITS REQUIRED: 12	

CONSTRUCTION AND ENERGY TECHNOLOGY COURSES »

CET 1 OSHA CONSTRUCTION SAFETY TRAINING

Units: 1
Hours: 18 lecture
 Covers a variety of construction safety and health hazards workers may encounter. Provides safety information to construction workers about employee and employer rights and responsibilities. Emphasizes identification, avoidance, abatement, control and prevention of job-related hazards on construction sites. Upon successful completion, 10 hour OSHA card issued by instructor. (not transferable)

CET 3 BASICS OF CONSTRUCTION AND WOODWORKING

Formerly known as CTC 1 or CTR 1
Units: 3
Advisory: Completion with grade of "C" or better or concurrent enrollment in CET 1
Hours: 108 (36 lecture, 72 laboratory)
 Designed to teach the skills required to be successful in the construction and wood working industries. Topics include fundamentals of woodworking, safe operation of hand tools, introduction to woodworking materials, project drawings and environmentally sound design and construction techniques. Hands-on experience with woodworking tools and materials based on assigned student project(s). (not transferable)

CET 5 INTRODUCTION TO THE BUILT ENVIRONMENT

Formerly known as CTR 45
Units: 3
Hours: 54 lecture
 Introduction to the building industry: trends, organizations, construction processes, contracting laws, regulations, business aspects and career pathways. (CSU)

CET 7 MATERIALS OF CONSTRUCTION

Units: 4
Advisory: Completion with grade of "C" or better or concurrent enrollment in CET 1
Hours: 180 (18 lecture, 162 laboratory)
 Hands-on study of the performance characteristics of building materials. Includes the basic properties and installation techniques of metals, aggregates, cement products, asphalt products and wood. Safe handling of construction materials and tools. (CSU)

CET 20 FOUNDATIONS AND FRAMING

Formerly known as CTR 42
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. Includes use and practices of materials and codes related to California Green Technology and "Net Zero Energy" policies. (CSU)

CET 22 INTRODUCTION TO ENERGY EFFICIENCY CONSTRUCTION

Formerly known as CTR 44

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 project in the community. Includes use and practices of materials and codes related to California Green Technology and "Net Zero Energy" policies. (CSU)

CET 24 FUNDAMENTALS OF CONSTRUCTION DOCUMENTS AND ESTIMATING

Formerly known as CTR 47 and 48

Units: 3

Hours: 54 lecture

Establishes a vocabulary and understanding of construction related documents including the symbols and detail views of building plans. Cost estimating to include material and labor cost calculations, specifications, problem solving and bid preparations. (CSU)

CET 26 RESIDENTIAL HOUSE WIRING AND CODES

Formerly known as CTR 60

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 and CEC updates due to California Green Technology and "Net Zero Energy" policies. (CSU)

CET 28 INDEPENDENT STUDY

Formerly known as CTR 28

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. See Independent Study page in catalog. (CSU)

CET 30 FINISH CARPENTRY

Formerly known as CTR 41

Units: 3

Advisory: Completion with grade of "C" or better or concurrent enrollment in CET 3

Hours: 108 (36 lecture, 72 laboratory)

Fundamentals of woodworking hand tools, power hand tools and woodworking machinery to safely develop 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)

CET 32 RESIDENTIAL BUILDING CODES

Formerly known as CTR 52

Units: 3

Hours: 54 lecture

Instruction in building codes for light frame one- or two-story dwellings 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. Includes codes related to California Green Technology and "Net Zero Energy" policies. (not transferable)

CET 34 PLUMBING INSTALLATION AND DESIGN

Formerly known as CTR 62

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. Includes use of materials and codes related to California Green Technology and "Net Zero Energy" policies. (CSU)

CET 40 BEGINNING PHOTOVOLTAIC SYSTEMS

Formerly known as ESS 30

Units: 4

Advisory: Completion with grade of "C" or better or concurrent enrollment in CET 1

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 assessment, photovoltaic system components, sizing, financial analysis, design, installation concepts and maintenance. This course taken with CET 42 prepares students to sit for the NABCEP PV Entry Level Certificate of Knowledge exam. (CSU)

CET 42 INTERMEDIATE PHOTOVOLTAIC SYSTEMS

Formerly known as ESS 32

Units: 4

Prerequisite: Completion of CET 40 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 CET 40, prepares students to sit for the NABCEP PV Entry Level Certificate of Knowledge exam. (CSU)

CET 44 ADVANCED PHOTOVOLTAIC SYSTEMS

Formerly known as ESS 34

Units: 4

Prerequisite: Completion of CET 42 with grade of "C" or better

Hours: 108 (54 lecture, 54 laboratory)

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, net metering laws, local codes and National Electric Code PV requirements. Off campus activities required. (CSU)

CET 50 INTERIOR AND EXTERIOR FINISHING

Formerly known as CTC 24 or CTR 24

Units: 3

Hours: 108 (36 lecture, 72 laboratory)

Focus on removal and preparation of existing and new finishes, sanding, masking, caulking, applications of stains, shellac, varnishes and lacquers, interior and exterior painting with primers and paint, use of brushes, rollers and spray systems, HVLP and airless. (not transferable)

CET 60 PRODUCTION CABINETRY (TRADITIONAL)

Formerly known as CTC 5 or CTR 5

Units: 3

Advisory: Completion with grade of "C" or better or concurrent enrollment in CET 3

Hours: 108 (36 lecture, 72 laboratory)

Economy and custom grade conventional case construction revolving around industrial standards, joinery, processes, structures and hardware of residential case structural systems. Also includes computer-aided spatial designs. Lab work shall be instructor-initiated case structures for a residential project. (not transferable)

CET 70A ADVANCED SKILL AND SPEED DEVELOPMENT—CONCRETE

Formerly known as CTR 37A

Units: 3

Prerequisite: Completion with grade of "C" or better or concurrent enrollment in CET 20

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. (not transferable)

CET 70B ADVANCED SKILL AND SPEED DEVELOPMENT—FRAMING

Formerly known as CTR 37B

Units: 3

Prerequisite: Completion with grade of "C" or better or concurrent enrollment in CET 22

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. (not transferable)

CET 70C SKILL AND SPEED DEVELOPMENT-CABINETRY AND FURNITURE

Formerly known as CTC 35 or CTR 38

Units: 3

Prerequisite: Completion with grade of "C" or better or concurrent enrollment in CET 3

Advisory: Completion of CET 60 with grade of "C" or better

Hours: 108 (36 lecture, 72 laboratory)

Designed to further develop skill, speed and experience capabilities to advance knowledge in construction technology. In-depth study of architectural woodwork standards; extensive problem solving in student-selected laboratory projects. (not transferable)

CET 95 INTERNSHIP IN CONSTRUCTION AND ENERGY TECHNOLOGY

Formerly known as CTR 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)

CET 300 SELECTED TOPICS IN CONSTRUCTION AND ENERGY TECHNOLOGY

Formerly known as CTR 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)

CET 400 SELECTED TOPICS IN CONSTRUCTION AND ENERGY TECHNOLOGY

Formerly known as CTR 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)



DEAF STUDIES

LIBERAL ARTS

DEAN: Rebecca Bocchicchio
 ASSOCIATE DEANS: Anne Fleischmann, Susan Lucyga
 DIVISION OFFICE: W 107
 LIAISON COUNSELORS: S. Bramlett, B. Oliver

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 OF ACHIEVEMENT

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. In all cases, students should consult with a counselor for more information on university admission and transfer requirements. For the degree, students must fulfill the fol-

lowing major requirements with grades of "C" or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth pattern; or Intersegmental General Education Transfer Curriculum (IGETC). A certificate is designed to provide career technical skills; it is not equivalent to an associate degree.

REQUIRED COURSES:	UNITS
DFST 1 American Sign Language I	4
DFST 2 American Sign Language II	4
DFST 3 American Sign Language III	4

PLUS 7 UNITS FROM:	
DFST 4 American Sign Language IV	4
DFST 10 Introduction to Deaf Studies	3
DFST 28 Independent Study AND/OR	
DFST 95 Internship in Deaf Studies .....	.5-3

TOTAL UNITS REQUIRED: 19
 Recommended electives: ANTH 2; BIOL 55; COMM 3, 7, 10; DRMA 10A, 13; HDEV 1, 4; HED 2; PSYC 100, 103, 104; SOC 1.

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 with grade of "C" or better
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 with grade of "C" or better
Hours: 72 lecture
 Continuation of American Sign Language II (ASL II). Shifts from comprehension to production of ASL. Further study of vocabulary and grammatical patterns. 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 with grade of "C" or better

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 10 INTRODUCTION TO DEAF STUDIES

Units: 3

Hours: 54 lecture

Course introduces topics central to the Deaf and Deaf community, including audiology, interpreting, education, culture, history, linguistics, sociology and psychology. Designed to introduce basic information of the American Deaf experience in the United States: Deaf Community/culture and American Sign Language. (CSU, UC)

DFST 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. See Independent Study page in catalog. (CSU, UC-with unit limitation)

DFST 95 INTERNSHIP IN DEAF 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)

DFST 300 SELECTED TOPICS IN DEAF 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, UC-with unit limitation)



DRAFTING AND ENGINEERING

SUPPORT

(Formerly Engineering and Support Technology)

BUSINESS AND TECHNOLOGY

DEAN: Sonja Lolland

ASSOCIATE DEAN: Darlene Jackson

DIVISION OFFICE: B 3

FACULTY: A. Salome

LIAISON COUNSELORS: B. Gosney, Reyes Ortega

The Drafting and Engineering Support 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 Drafting and Engineering Support 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.

DRAFTING AND ENGINEERING SUPPORT— ARCHITECTURAL/CIVIL CONCENTRATION A.A. OR A.S. DEGREE AND/OR CERTIFICATE OF ACHIEVEMENT (FORMERLY ENGINEERING SUPPORT TECHNOLOGY- ARCHITECTURAL CONCENTRATION)

Successful completion of the curriculum in Drafting and Engineering Support-Architectural/Civil Concentration, prepares students for entry-level positions as document support technicians in the field of architecture, interior design and kitchen/bath design. For the degree, students must fulfill the following major requirements with grades of "C" or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth pattern; or Intersegmental General Education Transfer Curriculum (IGETC). A certificate is designed to provide career technical skills; it is not equivalent to an associate degree.

REQUIRED COURSES:

	UNITS
DES 1 Technical Drafting I	3
DES 2 Technical Drafting II	3
DES 10 Industrial and Civil Applications of Computer-Aided Design	3
DES 20 Architectural Drawing I	3
DES 21 Architectural Drawing II	3

DES 22 Architectural Drawing III-BIM (Building Information Modeling)	3
DES 40 Managing the Computer-Aided Design (CAD) Environment	3
DES 95 Internship in Drafting and Engineering Support . . . . .	.5-4
TOTAL UNITS REQUIRED: 21.5-25	
Recommended Electives: CET 20, 22, 24, 32; ENGR 10	

DRAFTING AND ENGINEERING SUPPORT - MECHANICAL/CIVIL CONCENTRATION
A.A. OR A.S. DEGREE AND/OR CERTIFICATE OF ACHIEVEMENT

(FORMERLY ENGINEERING SUPPORT TECHNOLOGY-MECHANICAL/CIVIL CONCENTRATION)

Successful completion of the curriculum in Drafting and Engineering Support-Mechanical/Civil Concentration, prepares students for entry-level positions as document support technicians in the fields of mechanical and civil engineering. For the degree, students must fulfill the following major requirements with grades of "C" or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth pattern; or Intersegmental General Education Transfer Curriculum (IGETC). A certificate is designed to provide career technical skills; it is not equivalent to an associate degree.

REQUIRED COURSES:	UNITS
DES 1 Technical Drafting I	3
DES 2 Technical Drafting II	3
DES 10 Industrial and Civil Applications of Computer-Aided Design	3
DES 11 Three-Dimensional Modeling	3
DES 20 Architectural Drawing I	3
DES 21 Architectural Drawing II	3
DES 40 Managing the Computer-Aided Design (CAD) Environment	3
DES 95 Internship in Drafting and Engineering Support . . . . .	.5-4
TOTAL UNITS REQUIRED: 21.5-25	
Recommended Electives: ENGR 10; WELD 20	

ARCHITECTURAL DRAFTING SPECIALIST SKILLS CERTIFICATE

Designed to give students the advanced drafting support knowledge and abilities required to enter the workforce at the specialist level. Focuses on skills relative to specialized architectural documentation such as is used in architectural and civil construction trades. Appropriate for students seeking retraining. This is a specialty skills certificate designed to provide career technical skills; it is not equivalent to an associate degree.

REQUIRED COURSES:	UNITS
DES 20 Architectural Drawing I	3
DES 21 Architectural Drawing II	3
DES 22 Architectural Drawing III-BIM (Building Information Modeling)	3
DES 10 Industrial and Civil Applications of Computer-Aided Design OR	
CET 22 Introduction to Energy Efficiency Construction	3
TOTAL UNITS REQUIRED: 12	

DRAFTING ESSENTIALS SKILLS CERTIFICATE

Designed to give students the basic drafting support knowledge and abilities required to enter the workforce at an entry level. Focuses on skills relative to the fields of architecture and mechanical computer-aided drafting (CAD). Appropriate for students seeking retraining. A skills certificate is designed to provide career technical skills; it is not equivalent to an associate degree.

REQUIRED COURSES:	UNITS
DES 1 Technical Drafting I	3
DES 2 Technical Drafting II	3
DES 20 Architectural Drawing I	3
DES 21 Architectural Drawing II	3
TOTAL UNITS REQUIRED: 12	

MECHANICAL DRAFTING SPECIALIST SKILLS CERTIFICATE

Designed to give students the advanced drafting support knowledge and abilities required to enter the workforce at the specialist level. Focuses on skills relative to specialized mechanical documentation such as is used in aerospace and automotive drafting. Appropriate for students seeking retraining. Will help successful candidates prepare to sit for the professional ASME (American Society of Mechanical Engineers) Y14.5 Geometric Dimensioning and Tolerancing certification exam. This is a specialty skills certificate designed to provide career technical skills; it is not equivalent to an associate degree.

REQUIRED COURSES:	UNITS
DES 1 Technical Drafting I	3
DES 2 Technical Drafting II	3
DES 12 Geometric Dimensioning and Tolerancing	3
DES 11 Three-Dimensional Modeling OR	
ENGR 22B Descriptive Geometry and Solid Modeling	3
TOTAL UNITS REQUIRED: 12	

DRAFTING AND ENGINEERING SUPPORT COURSES »

DES 1 TECHNICAL DRAFTING I

Formerly known as EST 1

Units: 3

Hours: 90 (36 lecture; 54 laboratory which may be scheduled TBA)

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)

DES 2 TECHNICAL DRAFTING II

Formerly known as EST 2

Units: 3

Prerequisite: Completion of DES 1 with grade of "C" or better or equivalent as determined by instructor

Hours: 90 (36 lecture; 54 laboratory which may be scheduled TBA)

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)

DES 5 COMPUTER-AIDED DRAFTING IA

Formerly known as EST 5

Units: 3

Hours: 90 (36 lecture; 54 laboratory which may be scheduled TBA)

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)

DES 6 COMPUTER-AIDED DRAFTING IB

Formerly known as EST 6

Units: 3

Prerequisite: Completion of DES 5 with grade of "C" or better; or completion of DES 1 and 2 with grades of "C" or better; or equivalent as determined by instructor

Hours: 90 (36 lecture; 54 laboratory which may be scheduled TBA)

Continuation of DES 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)

DES 10 INDUSTRIAL AND CIVIL APPLICATIONS OF COMPUTER-AIDED DESIGN

Formerly known as EST 10

Units: 3

Prerequisite: Completion of DES 2 or 20 with grade of "C" or better or equivalent as determined by instructor

Hours: 90 (36 lecture; 54 laboratory which may be scheduled TBA)

Development of drafting skills used in the areas of industrial and civil engineering support. 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. Introduction to AutoCAD Civil 3D software. (CSU)

DES 11 THREE-DIMENSIONAL MODELING

Formerly known as EST 11

Units: 3

Prerequisite: Completion of DES 1 and 2 with grades of "C" or better; or equivalent as determined by instructor

Hours: 90 (36 lecture; 54 laboratory which may be scheduled TBA)

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)

DES 12 GEOMETRIC DIMENSIONING AND TOLERANCING

Formerly known as EST 12

Units: 3

Prerequisite: Completion of DES 2 with grade of "C" or better or equivalent as determined by instructor

Hours: 54 lecture

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 ASME Y14.5-2009 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)

DES 20 ARCHITECTURAL DRAWING I

Formerly known as EST 20

Units: 3

Hours: 90 (36 lecture; 54 laboratory which may be scheduled TBA)

Introduction to the fundamentals of residential construction and its design. Drawings of a residence are developed and detailed, to include sketches, plot and floor plans, foundation, elevations, schedules, framing, electrical, plumbing and section views. AutoCAD instruction is incorporated to develop CAD drawings and electronic data sets. (CSU)

DES 21 ARCHITECTURAL DRAWING II

Formerly known as EST 21

Units: 3

Prerequisite: Completion of DES 20 with grade of "C" or better or equivalent as determined by instructor

Hours: 90 (36 lecture; 54 laboratory which may be scheduled TBA)

Continuation of the residential design started in DES 20 to include major detailing to conform to the current industry building codes. Drawings to include fireplaces, stairs, interiors, mechanical specifications, Title 24, a two-point perspective drawing and renderings. Basic introduction to Building Information Modeling. (CSU)

DES 22 ARCHITECTURAL DRAWING III-BIM (BUILDING INFORMATION MODELING)

Units: 3

Prerequisite: Completion of DES 21 with grade of "C" or better or equivalent as determined by instructor

Hours: 90 (36 lecture; 54 laboratory which may be scheduled TBA)

Continuation of the architectural design started in DES 20 and 21. Students utilize Building Information Modeling (BIM) using REVIT software to develop commercial architectural documentation (including electronic data sets) in adherence to the International Building Code (IBC) and local county and state codes. (CSU)

DES 28 INDEPENDENT STUDY

Formerly known as EST 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. See Independent Study page in catalog. (CSU)

DES 40 MANAGING THE COMPUTER-AIDED DESIGN (CAD) ENVIRONMENT

Formerly known as EST 40

Units: 3

Prerequisite: Completion of DES 10, 11 or 22 with grade of "C" or better, or equivalent as determined by instructor

Hours: 90 (36 lecture; 54 laboratory which may be scheduled TBA)

Designed for the advanced Engineering Support and Drafting student. Topics include proper CAD management skills and the development of "as built" models used in the manufacturing, architectural and civil disciplines. Focus on utilizing, creating and instituting CAD standards, policies and procedures. Development of prototypes integral to the design process in their chosen area of concentration (mechanical, civil and/or architecture). (CSU)

DES 95 INTERNSHIP IN DRAFTING AND ENGINEERING SUPPORT

Formerly known as EST 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)

DES 300 SELECTED TOPICS IN DRAFTING AND ENGINEERING SUPPORT

Formerly known as EST 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)



DRAMA

LIBERAL ARTS

DEAN: Rebecca Bocchicchio
 ASSOCIATE DEANS: Anne Fleischmann, Susan Lucyga
 DIVISION OFFICE: W 107
 FACULTY: D. Hammond
 LIAISON COUNSELORS: B. Gosney, T. Times

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. Introductory music, art, communication 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.

THEATRE ARTS FOR TRANSFER AA-T DEGREE

The Associate in Arts in Theatre Arts for Transfer degree (AA-T) program provides students with a strong foundation in Theatre Arts. Upon completion of the program, students will identify and recall the historical development, common practices and terminology of Western theatre; analyze texts from a performance point of view; communicate clearly and coherently in oral and written forms; collaborate harmoniously and effectively with others as a well-prepared member of the team; and participate effectively in a theatrical production.

The Associate in Arts in Theatre Arts for Transfer degree (AA-T) prepares students to transfer into the CSU system to complete a bachelor's degree in Theatre Arts, Performing Arts, or a major deemed similar by a CSU campus. Students earning an associate degree for transfer and meeting the CSU minimum transfer admission requirements are guaranteed admission with junior standing within the CSU system. Students are also given priority admission consideration to their local CSU campus but not to a particular campus or major. Upon transfer, students will be required to complete no more than 60 additional prescribed units to earn a bachelor's degree.

To earn the Associate in Arts in Anthropology for Transfer degree, students must complete 60 CSU-transferable semester units with a minimum grade point average of 2.0, including both of the following:

- completion of all courses required for the major with grades of "C" or better; and
- completion of the California State University General Education

Breadth (CSU GE) pattern or the Intersegmental General Education Transfer Curriculum (IGETC) pattern.

It is highly recommended that, prior to transferring, students complete courses that satisfy the CSU United States History, Constitution and American Ideals graduation requirement. In all cases, students should consult with a counselor for more information on university admission and transfer requirements.

REQUIRED COURSES:	UNITS
DRMA 10A Fundamentals of Acting	3
DRMA 13 Introduction to Theater.	3

PLUS 4 UNITS FROM:	
DRMA 22A Production Crew I.	2
DRMA 22B Production Crew II	2
DRMA 22C Production Crew III.	2
DRMA 22D Production Crew IV.	2
DRMA 23A Rehearsal and Performance—Cast I.	2
DRMA 23B Rehearsal and Performance—Cast II	2
DRMA 23C Rehearsal and Performance—Cast III	2
DRMA 23D Rehearsal and Performance—Cast IV	2

PLUS 9-10 UNITS FROM:	
DRMA 10B Advanced Acting	3
DRMA 14 Stagecraft	3
DRMA 15 Stage Lighting	3
DRMA 17 Makeup.	3
DRMA 21 Script Analysis	3
DRMA 22A Production Crew I.	2*
DRMA 22B Production Crew II	2*
DRMA 22C Production Crew III.	2*
DRMA 22D Production Crew IV.	2*
DRMA 23A Rehearsal and Performance—Cast I.	2*
DRMA 23B Rehearsal and Performance—Cast II	2*
DRMA 23C Rehearsal and Performance—Cast III	2*
DRMA 23D Rehearsal and Performance—Cast IV	2*

TOTAL UNITS REQUIRED: 19-20
 *A maximum of 4 units from DRMA 22A-D and DRMA 23A-D may be used toward the "Plus 9-10 Units" area. The same course cannot be used in both the "Plus 4 Units" and the "Plus 9-10 Units" areas.

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 more information on university admission and transfer requirements. Students must fulfill the following major requirements with grades of "C" or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth pattern; or Intersegmental General Education Transfer Curriculum (IGETC).

REQUIRED COURSES:	UNITS
DRMA 10A Fundamentals of Acting	3
DRMA 13 Introduction to Theater	3
DRMA 14 Stagecraft	3
DRMA 15 Stage Lighting	3

PLUS 4 UNITS FROM:	
DRMA 22A Production Crew I	2
DRMA 22B Production Crew II	2
DRMA 22C Production Crew III	2
DRMA 22D Production Crew IV	2
DRMA 23A Rehearsal and Performance—Cast I	2
DRMA 23B Rehearsal and Performance—Cast II	2
DRMA 23C Rehearsal and Performance—Cast III	2
DRMA 23D Rehearsal and Performance—Cast IV	2

PLUS 9 UNITS FROM:	
DRMA 10B Advanced Acting	3
DRMA 11 Stage Movement	3
DRMA 16A Costume History	3
DRMA 16B Costume Construction	3
DRMA 17 Makeup	3
DRMA 19A Stage Properties	3
DRMA 19B Scenic Painting	3
DRMA 20 Play, Performance and Perception	3
DRMA 21 Script Analysis	3
DRMA 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 associate degree.

REQUIRED COURSES:	UNITS
DRMA 14 Stagecraft	3
DRMA 15 Stage Lighting	3
DRMA 19A Stage Properties OR	
DRMA 19B Scenic Painting	3
DRMA 28 Independent Study OR	
DRMA 95 Internship in Drama	1-2

PLUS 4 UNITS FROM:	
DRMA 22A Production Crew I	2
DRMA 22B Production Crew II	2
DRMA 22C Production Crew III	2
DRMA 22D Production Crew IV	2
DRMA 23A Rehearsal and Performance—Cast I	2
DRMA 23B Rehearsal and Performance—Cast II	2
DRMA 23C Rehearsal and Performance—Cast III	2
DRMA 23D Rehearsal and Performance—Cast IV	2

TOTAL UNITS REQUIRED: 14-15

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 associate degree.

REQUIRED COURSES:	UNITS
DRMA 16A Costume History	3
DRMA 16B Costume Construction	3
DRMA 17 Makeup	3
DRMA 28 Independent Study OR	
DRMA 95 Internship in Drama	1-2

PLUS 4 UNITS FROM:	
DRMA 22A Production Crew I	2
DRMA 22B Production Crew II	2
DRMA 22C Production Crew III	2
DRMA 22D Production Crew IV	2
DRMA 23A Rehearsal and Performance—Cast I	2
DRMA 23B Rehearsal and Performance—Cast II	2
DRMA 23C Rehearsal and Performance—Cast III	2
DRMA 23D Rehearsal and Performance—Cast IV	2

TOTAL UNITS REQUIRED: 14-15

DRAMA COURSES »

DRMA 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. (C-ID THTR 151) (CSU, UC)

DRMA 10B ADVANCED ACTING

Units: 3

Prerequisite: Completion of DRMA 10A with grade of "C" or better

Hours: 54 lecture

Analysis and practice in major styles of acting with particular emphasis on the realistic convention. Activities include one or more acting projects, monologues, scenes and participation in a play. (C-ID THTR 152) (CSU, UC)

DRMA 11 STAGE MOVEMENT

Units: 3

Hours: 54 lecture

Analysis and practice of movement styles used in the theater; basic movement, control, relaxation and interpretation. Character development through physical exploration and scene study. (CSU, UC)

DRMA 13 INTRODUCTION TO THEATER

Units: 3

Hours: 54 lecture

Focuses on the relationship of theater to various cultures throughout history and the contributions of significant individual artists. A study of procedures, production processes and practices, performances and social impact in the major periods, styles and genres of theater. Introduces playwriting, acting, directing, design and criticism. Designed for both majors and non-majors interested in acquiring a critical understanding and appreciation of theater as a performing art. Required theater production attendance. (C-ID THTR 111) (CSU, UC)

DRMA 14 STAGECRAFT

Units: 3

Hours: 90 (18 lecture, 72 activity)

Set construction including tools and hardware, painting and techniques of construction, mounting and shifting stage scenery. Theater architecture, rigging and machinery. (CSU, UC)

DRMA 15 STAGE LIGHTING

Units: 3

Hours: 90 (18 lecture, 72 activity)

Basic execution of theatrical lighting. Study of design principles, electrical principles, lighting instruments and control equipment. (CSU, UC)

DRMA 16A COSTUME HISTORY

Units: 3

Hours: 54 lecture

Costumes from Greek 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 and terminology of apparel through history. Students may begin with either 16A or 16B. (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. Students may begin with either 16A or 16B. (CSU, UC)

DRMA 17 MAKEUP

Units: 3

Hours: 90 (18 lecture, 72 activity)

Theory and practical application of stage makeup and prosthetics, including crew work on major productions. Discussion and criticism of student projects. (CSU, UC)

DRMA 19A STAGE PROPERTIES

Units: 3

Hours: 90 (18 lecture, 72 activity)

Study of stage properties including locating and procuring 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 and tools. (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 with emphasis on production. 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 22A PRODUCTION CREW I

Formerly known as DRMA 12A

Units: 2

Hours: 80 activity

Participation in a college production as a technical assistant, assistant to the designer, or crew member. Focus on one or more of the following areas during the development of the play: scenery building and painting, stage lighting, make-up, costuming, stage operations, publicity and/or house management. (C-ID THTR 192) (CSU, UC)

DRMA 22B PRODUCTION CREW II

Units: 2

Prerequisite: Completion of DRMA 22A with grade of "C" or better

Hours: 80 activity

Participation in a college production as a member of the technical crew or production staff at an intermediate level of responsibility. Focus on one or more of the following areas during the development of the play: scenery building and painting, stage lighting, make-up, costuming, stage operations, publicity and/or house management. (C-ID THTR 192) (CSU, UC)

DRMA 22C PRODUCTION CREW III

Units: 2

Prerequisite: Completion of DRMA 22B with grade of "C" or better

Hours: 80 activity

Participation in a college production in an intermediate leadership level as a member of the production crew. Focus on one or more of the following areas during the development of the play: scenery building and painting, stage lighting, make-up, costuming, stage operations, theatrical design, stage management, publicity and/or house management. (C-ID THTR 192) (CSU, UC)

DRMA 22D PRODUCTION CREW IV

Units: 2

Prerequisite: Completion of DRMA 22C with grade of "C" or better

Hours: 80 activity

Participation in a college production in an advanced leadership level as a member of the production crew, technical staff or design team of a college production. Focus on one or more of the following areas during the development of the play: scenery, lighting, make-up, costuming, stage operations, stage management, publicity and/or house management. (C-ID THTR 192) (CSU, UC)

DRMA 23A REHEARSAL AND PERFORMANCE—CAST I

Formerly known as DRMA 12B

Units: 2

Hours: 80 activity

Provides an opportunity for students to participate in a college production as a performing ensemble member of the cast. Students develop fundamental rehearsal and performance techniques. All actors are required to audition for roles. (C-ID THTR 191) (CSU, UC)

DRMA 23B REHEARSAL AND PERFORMANCE—CAST II

Units: 2

Prerequisite: Completion of DRMA 23A with grade of "C" or better

Hours: 80 activity

Enables students to participate in a college production as a principal performing member of the cast. Students investigate increasingly sophisticated ensemble and performance techniques as well as develop more advanced approaches to script analysis and characterization. A successful audition is required. (C-ID THTR 191) (CSU, UC)

DRMA 23C REHEARSAL AND PERFORMANCE—CAST III

Units: 2

Prerequisite: Completion of DRMA 23B with grade of "C" or better

Hours: 80 activity

Allows students to perform in a college production in a demanding principal role. Students apply increasingly advanced rehearsal and performance techniques to the study of characters of great complexity and depth. A successful audition is required. (C-ID THTR 191) (CSU, UC)

DRMA 23D REHEARSAL AND PERFORMANCE—CAST IV

Units: 2

Prerequisite: Completion of DRMA 23C with grade of "C" or better

Hours: 80 activity

Provides an opportunity for student actors to explore specific stylistic performance challenges, such as poetic text, operatic or musical roles, non-realistic performance styles, circus skills, mask work and others. Students apply these advanced performance techniques as a principal actor in an appropriate college production. A successful audition is required. (C-ID THTR 191) (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 might include, but is not limited to, research papers, special subject area projects and research projects. 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*

Course designed for older adults. Introduction to a series of films examined for originality, creative virtuosity, impact, structure and direction. Selected films illustrate a specific dimension of film genre. Genres change with each offering. May be repeated. (noncredit)

**EARTH SCIENCE**

(Also see Geography)

SCIENCES AND 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

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 FOR TRANSFER
AS-T DEGREE**

Geology investigates our planet Earth from diverse perspectives, spanning from the smaller scale study of its building blocks (minerals) to the larger scale study of its dynamism (Theory of Plate Tectonics), as well as its history and the relationship between the physical environment and the evolution of life. This is accomplished by viewing the planet as a system, where there are interactions between the lithosphere, the atmosphere, the hydrosphere and the biosphere. Within this context, students develop strong critical thinking, problem solving, communication and technical skills to work in a relatively large set of career fields beyond that of Geology, such as Hydrology, Geophysics, Oceanography, Meteorology and Environmental Science. The required curricular sequence also provides the necessary skills in the physical sciences and mathematics required for junior standing at baccalaureate institutions. Thus, future Earth Scientists acquire both a global and sequential way to approach topics, with an emphasis on the interdisciplinary nature of the field and also enhance their expertise through hands-on laboratory work, readying themselves for the applied nature of the workforce (industry, consulting and government agencies).

The Associate in Science in Geology for Transfer degree (AS-T) prepares students to transfer into the CSU system to complete a bachelor's degree in Geology or a major deemed similar by a CSU campus. Students earning an associate degree for transfer and meeting the CSU minimum transfer admission requirements are guaranteed admission with junior standing to the CSU system, but not to a particular campus or major. Upon transfer, students will be required to complete no more than 60 additional prescribed units to earn a bachelor's degree.

To earn the Associate in Science in Geology for Transfer degree, students must complete 60 CSU-transferable semester units with a minimum grade point average of 2.0, including both of the following:

- completion of all courses required for the major with grades of "C" or better; and

- completion of the California State University General Education Breadth (CSU GE) pattern or the Intersegmental General Education Transfer Curriculum (IGETC) pattern.

It is highly recommended that, prior to transferring, students complete courses that satisfy the CSU United States History, Constitution and American Ideals graduation requirement. In all cases, students should consult with a counselor for more information on university admission and transfer requirements.

REQUIRED COURSES:	UNITS
ESCI 1 Physical Geology	3
ESCI 1L Physical Geology Laboratory	1
ESCI 3 Historical Geology	3
ESCI 3L Historical Geology Laboratory	1
CHEM 1A General Chemistry I OR	
CHEM 3A General Chemistry I—Part 1 AND	
CHEM 3B General Chemistry I—Part 2	5-6
CHEM 1B General Chemistry II	5
MATH 30 Analytical Geometry and Calculus I	4
MATH 31 Analytical Geometry and Calculus II	4

TOTAL UNITS REQUIRED: 26-27

Additional Recommended Preparation (while these courses are not required for this degree, completion of these courses will better prepare students for upper-division geology courses):

- PHYS 205 Principles of Physics: Mechanics AND
- PHYS 205L Principles of Physics Laboratory: Mechanics
- PHYS 210 Principles of Physics: Electricity and Magnetism AND
- PHYS 210L Principles of Physics Laboratory: Electricity and Magnetism
- PHYS 215 Principles of Physics: Heat, Waves and Modern Physics AND
- PHYS 215L Principles of Physics Laboratory: Heat, Waves and Modern Physics

**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. In all cases, students should consult with a counselor for more information on university admission and transfer requirements. Students must fulfill the following major requirements with grades of "C" or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth pattern; or Intersegmental General Education Transfer Curriculum (IGETC).

REQUIRED COURSES:	UNITS
ESCI 1 Physical Geology	3
ESCI 1L Physical Geology Laboratory	1
ESCI 3 Historical Geology	3
ESCI 3L Historical Geology Laboratory	1
*ESCI 54A through 54E Saturday Field Geology AND/OR	
*ESCI 55F Weekend Field Geology AND/OR	
*ESCI 56F Field Geology of Western North America	1-2

PLUS 4-6 UNITS FROM:	
CHEM 1A General Chemistry I	5
OR	
CHEM 3A General Chemistry I—Part 1 AND	
CHEM 3B General Chemistry I—Part 2	6
OR	
PHYS 10 Basic Concepts in Physics AND	
PHYS 11 Physical Science Laboratory	4
OR	
PHYS 105 General Physics I AND	
PHYS 105L General Physics I Laboratory	5
OR	
PHYS 205 Principles of Physics: Mechanics AND	
PHYS 205L Principles of Physics Laboratory: Mechanics	5

PLUS 6-8 UNITS FROM:	
ASTR 10 Elementary Astronomy	3
CHEM 1B General Chemistry II	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 50 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 and Climate	3
GEOG 90 Introduction to Geographic Information Systems (GIS)	3
MATH 29 Pre-Calculus Mathematics	4
MATH 30 Analytical Geometry and Calculus I	4
PHYS 110 General Physics II AND	
PHYS 110L General Physics II Laboratory	4
PHYS 210 Principles of Physics: Electricity and Magnetism AND	
PHYS 210L Principles of Physics Laboratory: Electricity and Magnetism	4
PHYS 215 Principles of Physics: Heat, Waves and Modern Physics AND	
PHYS 215L Principles of Physics Laboratory: Heat, Waves and Modern Physics	4

TOTAL UNITS REQUIRED: 19-24

*Only 3 units total may be taken from the ESCI 54, 55 and 56 field studies courses.

EARTH SCIENCE COURSES »

ESCI 1 PHYSICAL GEOLOGY

Formerly known as GEOL 1

Units: 3

Prerequisite: Eligibility for ENGL 1A

Advisory: Concurrent enrollment in ESCI 1L

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. (C-ID GEOL 100) (CSU, UC)

ESCI 1L PHYSICAL GEOLOGY LABORATORY

Formerly known as GEOL 1L

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. (C-ID GEOL 100L) (CSU, UC)

ESCI 2 CALIFORNIA GEOLOGY

Formerly known as GEOL 2

Units: 3

Advisory: Completion of ESCI 10 with grade of "C" or better

Hours: 54 lecture

An introduction to the geology of California, including tectonic processes, geologic structures, physiographic provinces, local rocks and minerals, landforms, natural resources, geologic history and natural hazards in the state. (C-ID GEOL 200) (CSU, UC)

ESCI 3 HISTORICAL GEOLOGY

Formerly known as GEOL 3

Units: 3

Corequisite: Concurrent enrollment in ESCI 3L

Advisory: Completion of ESCI 1 and 1L with grades of "C" or better

Hours: 54 lecture

An introduction to Earth's history and the life it supports. Includes geologic dating, plate tectonics, stratigraphy, fossils, biological evolution, the planet's origin and the processes that have influenced paleogeography during the past 4.6 billion years. Designed for Geology majors. (C-ID GEOL 110) (CSU, UC)

ESCI 3L HISTORICAL GEOLOGY LABORATORY

Formerly known as GEOL 3L

Units: 1

Corequisite: Concurrent enrollment in ESCI 3

Hours: 54 laboratory

Hands-on learning in the topics of Earth history. Includes geologic dating, fossils, plate tectonics, minerals and rocks, biological evolution, the planet's origin and the processes that have influenced paleogeography and life history during the past 4.6 billion years. (C-ID GEOL 110L) (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 7 ENERGY, ENVIRONMENT AND CLIMATE

Also known as ESS 7

Units: 3

Advisory: Eligibility for ENGL 1A or ESL 40W

Hours: 54 lecture

Analysis of the nature of energy and the environmental impact of its societal use in the context of Earth's record of changing climate. Explores current global climate change due to post-1750 greenhouse gas emissions and current strategies for mitigation and adaptation to changing climate predictions, including future alternative energy sources. (CSU, UC)

ESCI 10 INTRODUCTION TO EARTH SCIENCE

Units: 3

Prerequisite: Eligibility for ENGL 1A

Hours: 54 lecture

Introduction to concepts of geology, oceanography, meteorology and astronomy for science or nonscience majors. (C-ID GEOL 120) (CSU, UC)

ESCI 10L INTRODUCTION TO EARTH SCIENCE LABORATORY

Units: 1

Prerequisite: Completion with grade of "C" or better, or concurrent enrollment in ESCI 10

Hours: 54 laboratory

Exploration of the solid Earth, its atmosphere, hydrosphere and place in the solar system. Learning through investigation and systematic laboratory procedures, focused on the physical and chemical systems of the Earth such as the tectonic cycle, rock cycle, hydrologic cycle, weather and climate. Field trip(s) may be required during regular lab time. (C-ID GEOL 120L) (CSU, UC)

ESCI 14 NATURAL DISASTERS

Units: 3

Prerequisite: Eligibility for ENGL 1A

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. Students may be required to provide their own transportation. (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. 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 LODGE

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. 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. (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)

ESCI 400 SELECTED TOPICS IN EARTH SCIENCE

Formerly known as GEOL 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)



ECONOMICS

LIBERAL ARTS

DEAN: Rebecca Bocchicchio

ASSOCIATE DEANS: Anne Fleischmann, Susan Lucyga

DIVISION OFFICE: W 107

FACULTY: S. Spencer

LIAISON COUNSELORS: B. Gosney, Reyes Ortega

Economics is the academic discipline that deals with the way societies produce and consume goods and services. As a descriptive discipline, it is concerned with accurate portrayals of national economies, as well as those of regions, firms and individuals. As an analytical discipline its tools are used to order, modify and describe economic activity.

TRANSFER MAJOR REQUIREMENTS in Economics 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 Economics are qualified are found in government service, banking and industry.

ECONOMICS FOR TRANSFER AA-T DEGREE

The Associate in Arts in Economics for Transfer degree (AA-T) program provides students with a strong foundation in Economics. Upon completion of the program, students will use critical thinking to demonstrate an understanding of major Economics concepts, including solving quantitative problems with such issues as opportunity costs, markets and profit maximization; analyze the basic principles underlying the economic way of thinking; list and distinguish basic economic terms; and analyze the supply and demand model.

The Associate in Arts in Economics for Transfer degree (AA-T) prepares students to transfer into the CSU system to complete a bachelor's degree in Economics or a major deemed similar by a CSU campus. Students earning an associate degree for transfer and meeting the CSU minimum transfer admission requirements are guaranteed admission with junior standing to the CSU system, but not to a particular campus or major. Upon transfer, students will be required to complete no more than 60 additional prescribed units to earn a bachelor's degree.

To earn the Associate in Arts in Economics for Transfer degree, students must complete 60 CSU-transferable semester units with a minimum grade point average of 2.0, including both of the following:

- completion of all courses required for the major with grades of "C" or better; and
- completion of the California State University General Education Breadth (CSU GE) pattern or the Intersegmental General Education Transfer Curriculum (IGETC) pattern.

It is highly recommended that, prior to transferring, students complete courses that satisfy the CSU United States History, Constitution and American Ideals graduation requirement. In all cases, students should consult with a counselor for more information on university admission and transfer requirements.

REQUIRED COURSES:	UNITS
ECON 1A Principles of Macroeconomics	3
ECON 1B Principles of Microeconomics.	3
MATH 13 Elementary Statistics	4
MATH 30 Analytical Geometry and Calculus I AND MATH 31 Analytical Geometry and Calculus II OR MATH 42 Business Calculus.	4-8

PLUS 3-6 UNITS FROM:

BUS 1 Financial Accounting I AND BUS 2 Financial Accounting II	6
BUS 3 Managerial Accounting.	3
BUS 48 Business Law.	3
CIS 62 Business Information Systems	3
CSCI 10 Introduction to Computing	3
CSCI 27 Visual Basic .NET Programming I	3
MATH 16A Calculus for Social and Life Sciences.	4
MATH 16B Calculus for Social and Life Sciences.	4
MATH 20 Finite Mathematics.	3

PLUS 3-4 UNITS FROM THE FOLLOWING OR UNUSED COURSE FROM THE PRECEDING AREA:

MATH 32 Analytical Geometry and Calculus III	4
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TOTAL UNITS REQUIRED: 20-28

ECONOMICS COURSES »

ECON 1A PRINCIPLES OF MACROECONOMICS
Units: 3
Prerequisite: Eligibility for ENGL 50 or ENGL N; completion of two years of high school algebra or MATH D with grade of "C" or better, or placement by matriculation assessment process
Hours: 54 lecture
 Introductory course focusing on aggregate economic analysis. Topics include: market systems, aggregate measures of economic activity, macroeconomic equilibrium, money and financial institutions, monetary and fiscal policy, international economics and economic growth. (CSU, UC)

ECON 1B PRINCIPLES OF MICROECONOMICS
Units: 3
Prerequisite: Eligibility for ENGL 50 or ENGL N; completion of two years of high school algebra or MATH D with grade of "C" or better, or placement by matriculation assessment process
Hours: 54 lecture
 Introductory course focusing on choices of individual economic decision-makers. Topics include scarcity, specialization and trade, market equilibrium, elasticity, production and cost theory, market structures, factor markets and market failure. (CSU, UC)

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 might include, but is not limited to, research papers, special subject area projects and research projects. 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)



EDUCATION

LIBERAL ARTS
 DEAN: Rebecca Bocchicchio
 ASSOCIATE DEANS: Anne Fleischmann, Susan Lucyga
 DIVISION OFFICE: W 107
 LIAISON COUNSELOR: N. Martinis

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. In all cases, students should consult with a counselor for more information on university admission and transfer requirements. Students must fulfill the following major requirements with grades of "C" or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth pattern; or Intersegmental General Education Transfer Curriculum (IGETC).

REQUIRED COURSES

4 UNITS FROM NATURAL SCIENCES:

BIOL 11 Concepts of Biology	4
ESCI 10 Introduction to Earth Science AND	
ESCI 10L Introduction to Earth Science Laboratory	4

PLUS 15 UNITS FROM SOCIAL SCIENCES AND HUMANITIES:

ECON 1A Principles of Macroeconomics	3
EDU 7 Tutoring Elementary Students in Reading (also ENGL 7) .	3
EDU 10 Introduction to Elementary Education with Field Experience	3
HIST 17A History of the United States to 1877	3
HIST 50 World History to 1500	3
HIST 51 World History since 1500.	3
HDEV 9 Child and Adolescent Development.	3
POLS 1 American Government	3

PLUS 3 UNITS FROM LANGUAGE AND RATIONALITY:

ENGL 1B Critical Thinking and Writing about Literature OR	
ENGL 1C Critical Thinking and Writing across the Curriculum . . .	3
ENGL 2 Structure of English.	3
COMM 5 Communication Experience	3
MATH 17 Concepts of Mathematics	3

TOTAL UNITS REQUIRED: 22

EDUCATION COURSES »

EDU 7 TUTORING ELEMENTARY STUDENTS IN READING

Also known as ENGL 7

Units: 3

Prerequisite: Eligibility for ENGL 11 or completion of ENGL 1A with grade of "C" or better

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 with grade of "C" or better

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 required. (CSU, UC)

EDU 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. 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 AND MATHEMATICS

DEAN: Heather Roberts

ASSOCIATE DEAN: Michael Kane

DIVISION OFFICE: V 211

FACULTY: D. Hill, P. Pattengale

LIAISON COUNSELORS: C. Axton, B. Gosney, 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. In all cases, students should consult with a counselor for more information on university admission and transfer requirements. Students must fulfill the following major requirements with grades of "C" or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth pattern; or Intersegmental General Education Transfer Curriculum (IGETC).

REQUIRED COURSES: UNITS

CHEM 1A General Chemistry I OR	
CHEM 3A General Chemistry I—Part 1 AND	
CHEM 3B General Chemistry I—Part 2	5-6
ENGR 35 Statics	3
ENGR 45 Materials Science	3
MATH 30 Analytical Geometry and Calculus I	4
MATH 31 Analytical Geometry and Calculus II.	4
MATH 32 Analytical Geometry and Calculus III	4
PHYS 210 Principles of Physics: Electricity and Magnetism AND	
PHYS 210L Principles of Physics Laboratory: Electricity and Magnetism	
OR	
PHYS 215 Principles of Physics: Heat, Waves and Modern Physics AND	
PHYS 215L Principles of Physics Laboratory: Heat, Waves and Modern Physics	4

PLUS 6 UNITS FROM:

CHEM 1B General Chemistry II	5
ENGR 17 Introduction to Circuit Theory	3
ENGR 17L Circuit Theory Laboratory.	1
ENGR 22A Engineering Drawing and CAD.	3
ENGR 22B Descriptive Geometry and Solid Modeling	3
ENGR 95 Internship in Engineering . . . . .	.5-4
ENGR 150 Introduction to the Engineering Profession.	1
MATH 33 Differential Equations and Linear Algebra	6
PHYS 210 Principles of Physics: Electricity and Magnetism AND	
PHYS 210L Principles of Physics Laboratory: Electricity and Magnetism	
OR	
PHYS 215 Principles of Physics: Heat, Waves and Modern Physics AND	
PHYS 215L Principles of Physics Laboratory: Heat, Waves and Modern Physics	4

TOTAL UNITS REQUIRED: 33-34

CIVIL ENGINEERING TECHNOLOGY CERTIFICATE OF ACHIEVEMENT

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. The certificate is not equivalent to an associate degree.

REQUIRED COURSES: UNITS

CHEM 1A General Chemistry I OR	
CHEM 3A General Chemistry I—Part 1 AND	
CHEM 3B General Chemistry I—Part 2	5-6
CIS 50 Applying Computer Software	3
ENGR 10 Engineering Survey Measurements	4
ENGR 22A Engineering Drawing and CAD.	3
ENGR 150 Introduction to the Engineering Profession.	1
MATH 8 Trigonometry.	4
MECH 10 Fundamentals of Electronics.	4
PHYS 105 General Physics I AND	
PHYS 105L General Physics I Laboratory	
OR	
PHYS 205 Principles of Physics: Mechanics AND	
PHYS 205L Principles of Physics Laboratory: Mechanics	5

PLUS 3-4 UNITS FROM:

ENGR 22B Descriptive Geometry and Solid Modeling	3
GEOG 90 Introduction to Geographic Information Systems (GIS)	3
PHYS 110 General Physics II AND	
PHYS 110L General Physics II Laboratory.	4
PHYS 210 Principles of Physics: Electricity and Magnetism AND	
PHYS 210L Principles of Physics Laboratory: Electricity and Magnetism	4

TOTAL UNITS REQUIRED: 32-34

GENERAL ENGINEERING TECHNOLOGY CERTIFICATE OF ACHIEVEMENT

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. The certificate is not equivalent to an associate degree.

REQUIRED COURSES:

	UNITS
CHEM 1A General Chemistry I OR	
CHEM 3A General Chemistry I—Part 1 AND	
CHEM 3B General Chemistry I—Part 2	5-6
CIS 50 Applying Computer Software	3
ENGR 22A Engineering Drawing and CAD	3
ENGR 150 Introduction to the Engineering Profession	1
MATH 8 Trigonometry	4
MECH 10 Fundamentals of Electronics	4
PHYS 105 General Physics I AND	
PHYS 105L General Physics I Laboratory	
OR	
PHYS 205 Principles of Physics: Mechanics AND	
PHYS 205L Principles of Physics Laboratory: Mechanics	5

PLUS 7-9 UNITS FROM:

CHEM 1B General Chemistry II	5
ENGR 22B Descriptive Geometry and Solid Modeling	3
MATH 29 Pre-Calculus Mathematics	4
PHYS 110 General Physics II AND	
PHYS 110L General Physics II Laboratory	4
PHYS 210 Principles of Physics: Electricity and Magnetism AND	
PHYS 210L Principles of Physics Laboratory: Electricity and Magnetism	4

TOTAL UNITS REQUIRED: 32-35

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 MATH 32 and PHYS 4B with grades of "C" or better; completion with grade of "C" or better or concurrent enrollment in MATH 33

Hours: 54 lecture

Introduction to circuit analysis. Includes all basic, passive circuit elements and operational amplifiers. Topics covered: constant and time variant circuit networks; network analysis and simplification techniques; response of circuit networks, natural and forced; steady state sinusoidal circuit analysis development from the network differential equations; power calculations; analysis involving operational amplifiers. (CSU, UC)

ENGR 17L CIRCUIT THEORY LABORATORY

Units: 1

Prerequisite: Completion with grade of "C" or better, or concurrent enrollment in ENGR 17

Hours: 54 laboratory

Designed to parallel ENGR 17. Experimental verification of circuit analysis concepts. Laboratory exercises include DC, transient and AC measurements on circuits including resistors, capacitors, inductors and operational amplifiers. Basic electrical instrumentation is used. (CSU, UC)

ENGR 22A ENGINEERING DRAWING AND CAD

Units: 3

Hours: 90 (36 lecture; 54 laboratory which may be scheduled TBA)

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 DES 1 and 2 with grade(s) of "C" or better

Hours: 90 (36 lecture; 54 laboratory which may be scheduled TBA)

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 Drafting and Engineering Support 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. 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 37 MANUFACTURING PROCESSES*Units: 3**Advisory: Completion of ENGR 22A with grade of "C" or better**Hours: 90 (36 lecture, 54 laboratory)*

Application of multiple fabrication techniques including tools and materials required for the manufacture of a product. Introduction to design and documentation of a final product. Manufacturing processes in the areas of forming, joining, material removal, casting, assembly and prototyping which includes hands on use of manufacturing equipment. Each student will fabricate a final project based on principles of manufacturing. (CSU)

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 THE 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 participating in engineering activities. (CSU, UC)

ENGINEERING SUPPORT TECHNOLOGY

(See Drafting and Engineering Support)



ENGLISH

LIBERAL ARTS

DEAN: Rebecca Bocchicchio

ASSOCIATE DEANS: Anne Fleischmann, Susan Lucyga

DIVISION OFFICE: W 107

FACULTY: B. Abrams, A. Batchelder, J. Breese, N. Conkle, I. Cooper, C. Eisenhower, B. Ervin, K. Fortin, L. Gardner, J. Hemmerling, M. Johnson, S. Johnson, T. Lord, P. Macias, B. Nelson-Burns, A. Neptune, R. Quinn, J. Roberts, L. Rochford, R. Roden, K. Schaefer, M. Shelley, L. Vrooman
LIAISON COUNSELORS: C. Axton, P. Neal

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 FOR TRANSFER AA-T DEGREE

This program is designed to award the Associate in Arts in English for Transfer degree (AA-T) to those students who have completed a specialization in English. The major provides students with a comprehensive study of composition, literary analysis and rhetorical strategies. Students will be able to identify the major themes, works, authors and movements in literature, particularly British and American literature. Students are trained in composition and given a solid background to explore literature as an intellectual discipline and an art. The required courses help students hone critical thinking, research, rhetoric and writing skills.

The Associate in Arts in English for Transfer degree (AA-T) prepares students to transfer into the CSU system to complete a bachelor's degree in English or a major deemed similar by a CSU campus. Students earning an associate degree for transfer and meeting the CSU minimum transfer admission requirements are guaranteed admission with junior standing to the CSU system, but not to a particular campus or major. Upon transfer, students will be required to complete no more than 60 additional prescribed units to earn a bachelor's degree.

To earn the Associate in Arts in English for Transfer degree, students must complete 60 CSU-transferable semester units with a minimum grade point average of 2.0, including both of the following:

- completion of all courses required for the major with grades of "C" or better; and
- completion of the California State University General Education Breadth (CSU GE) pattern or the Intersegmental General Education Transfer Curriculum (IGETC) pattern.

It is highly recommended that, prior to transferring, students complete courses that satisfy the CSU United States History, Constitution and American Ideals graduation requirement. In all cases, students should consult with a counselor for more information on university admission and transfer requirements.

REQUIRED COURSES:	UNITS
ENGL 1B Critical Thinking and Writing about Literature	3
ENGL 1C Critical Thinking and Writing across the Curriculum	3

PLUS 3 UNITS FROM:	
ENGL 30A American Literature—Beginnings through Civil War	3
ENGL 30B American Literature—Civil War to the Present	3

PLUS 3 UNITS FROM:	
ENGL 46A English Literature	3
ENGL 46B English Literature	3

PLUS 6 UNITS FROM THE FOLLOWING COURSES OR UNUSED COURSES FROM ABOVE:	
ENGL 19 Introduction to Creative Writing.	3
ENGL 29 Introduction to Drama as Literature	3
ENGL 32 Introduction to Poetry	3
ENGL 34 Introduction to the Novel.	3
ENGL 47A World Literature	3
ENGL 47B World Literature	3

PLUS 3 UNITS FROM THE FOLLOWING COURSES OR UNUSED COURSE FROM ABOVE:	
ENGL 20 Creative Writing (Poetry)	3
ENGL 21 Creative Writing (Fiction)	3
ENGL 24 Introduction to Literary Criticism and Critical Concepts	3
ENGL 33 Introduction to Shakespeare (The Drama).	3
ENGL 40 The Filmed Novel	3
ENGL 48 Literature of Science Fiction.	3
TOTAL UNITS REQUIRED: 21	

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 for more information on university admission and transfer requirements. Students must fulfill the following major requirements with grades of "C" or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth pattern; or Intersegmental General Education Transfer Curriculum (IGETC).

REQUIRED COURSE:	UNITS
ENGL 1B Critical Thinking and Writing about Literature	3

PLUS 3 UNITS FROM:	
ENGL 30A American Literature—Beginnings through Civil War	3
ENGL 30B American Literature—Civil War to the Present	3

PLUS 3 UNITS FROM:	
ENGL 46A English Literature	3
ENGL 46B English Literature	3

PLUS 3 UNITS FROM:	
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 22 Creative Publication	3
ENGL 24 Introduction to Literary Criticism and Critical Concepts	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 47A World Literature	3
ENGL 47B World Literature	3
ENGL 48 Literature of Science Fiction.	3
HUM 20 Introduction to the Hebrew Bible	3
HUM 21 Introduction to the New Testament.	3

TOTAL UNITS REQUIRED: 21

ENGLISH COURSES »

ENGL A MECHANICS AND BASIC COMPOSITION

Units: 3
Prerequisite: Completion of ENGL 501 or 571 with grade of "C" or better, or placement by matriculation assessment process
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 501, 570 and 570L 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, ENGL 50 and ENGL 50L, combined. Not open to students who have completed ENGL A, 50 and/or 50L. (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 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. (C-ID ENGL 100) (CSU, UC)

ENGL 1B CRITICAL THINKING AND WRITING ABOUT LITERATURE

Units: 3
Prerequisite: Completion of ENGL 1A or ESL 40W with 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. (C-ID ENGL 120) (CSU, UC)

ENGL 1C CRITICAL THINKING AND WRITING ACROSS THE CURRICULUM

Units: 3
Prerequisite: Completion of ENGL 1A or ESL 40W with 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 sources, 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. (C-ID ENGL 105) (CSU, UC)

ENGL 2 STRUCTURE OF ENGLISH

Units: 3
Prerequisite: Completion of ENGL 1A with grade of "C" or better
Hours: 54 lecture
 Study of structure of English grammar, both descriptive and prescriptive. Introduction to terminology and structure of traditional grammar; analysis of standard rules for agreement, punctuation, pronoun reference, etc.; introduction to 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 CSU requirement for Liberal Studies major. (CSU, UC)

ENGL 7 TUTORING ELEMENTARY STUDENTS IN READING

Also known as EDU 7

Units: 3

Prerequisite: Eligibility for ENGL 11 or completion of ENGL 1A with grade of "C" or better

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 50/50L or ENGL N with grade(s) of "C" or better

Advisory: Eligibility for ENGL 1A or ESL 40W

Hours: 54 lecture

Designed to teach critical thinking and critical examination of texts and other printed material. Emphasizes principles of critical thinking, logic and fallacies, reasoning strategies, author's purpose and bias, research evaluation, propaganda, advertising and reading for academic purpose. Includes instruction in analyzing digital texts. (CSU)

ENGL 12 WRITING IN THE WORKPLACE

Units: 3

Prerequisite: Eligibility for ENGL 1A or ESL 40W

Hours: 54 lecture

Principles and practices of workplace writing. Includes organizing, writing and revising clear, readable documents for the workplace, such as letters, memos, emails, summaries, reports, job application documents, instructions, proposals and business graphics. (CSU)

ENGL 16 INTRODUCTION TO LGBTIQ LITERATURE

Units: 3

Prerequisite: Eligibility for ENGL 1A or ESL 40W

Hours: 54 lecture

Introduction to and critical analysis of selected LGBTIQ (Lesbian, Gay, Bisexual, Transgender, Intersex, Queer) texts over a range of historical periods and genres, including the essay, poetry, autobiography, short fiction, novel, drama and graphic novel. (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. (C-ID ENGL 200) (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 22 CREATIVE PUBLICATION

Units: 3

Advisory: Completion of ENGL 1A with grade of "C" or better

Hours: 72 (36 lecture, 36 activity)

Technique and experience in editing the college literary journal. Writing, selecting and editing manuscripts and graphics, discussing and designing layout and processing copy for all printing will be emphasized. Provides experience in marketing, distribution and other matters related to production management. Production occurs only in the spring semester. (CSU)

ENGL 24 INTRODUCTION TO LITERARY CRITICISM AND CRITICAL CONCEPTS

Units: 3

Prerequisite: Eligibility for ENGL 1A

Hours: 54 lecture

Introduction to the issues, concepts and contexts central to literary interpretation, with particular concentration on the relationships of aesthetics, culture, history, politics, issues of race, gender and class, to conceptions of literary meaning and developments in literary form. Includes surveys and history of major approaches to literary criticism. (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 might include, but is not limited to, research papers, special subject area projects and research projects. 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 explores 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. Students may begin with either 30A or 30B. (C-ID ENGL 130) (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. Students may begin with either 30A or 30B. (C-ID ENGL 135) (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, discussion and critical analysis 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

Critical appreciation of the short story. Intensive reading of a representative selection of American, British and translated short stories. (CSU, UC)

ENGL 37 AMERICAN FILM MASTERPIECES

Units: 3

Hours: 54 lecture

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: 54 lecture

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

A specialized course focusing on the film adaptations of novels. Includes historical background and basic terminology for the novel and film genres. 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: Eligibility for ENGL 1A or ESL 40W

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 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. (C-ID ENGL 180) (CSU)

ENGL 45 INTRODUCTION TO ADOLESCENT LITERATURE

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

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 development of literary forms, developments and transformations of central themes and developments in the historical, socioeconomic and cultural contexts of the literature. Students may begin with either 46A or 46B. (C-ID ENGL 160) (CSU, UC)

ENGL 46B ENGLISH LITERATURE

Units: 3

Prerequisite: Eligibility for ENGL 1A

Hours: 54 lecture

Survey of British, British Empire and Commonwealth authors from the Romantic Movement through the early 21st 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 the development of literary forms, developments and transformations of central themes and developments in the historical, socioeconomic and cultural contexts of the literature. Students may begin with either 46A or 46B. (C-ID ENGL 165) (CSU, UC)

ENGL 47A WORLD LITERATURE

Units: 3

Prerequisite: Eligibility for ENGL 1A

Hours: 54 lecture

Survey of world literature in translation from the ancient world through the 16th Century. Includes representative works from major world literary cultures and eras; explores traditions where appropriate. Incorporates analysis of the development of literary forms, developments and transformations of central themes and developments in the historical and cultural contexts of the literature. Includes cross-cultural analysis and exploration of cross-cultural influences in literary culture. Students may begin with either 47A or 47B. (C-ID ENGL 140) (CSU, UC)

ENGL 47B WORLD LITERATURE

Units: 3

Prerequisite: Eligibility for ENGL 1A

Hours: 54 lecture

A survey of world literature in translation from the seventeenth through twenty-first centuries. Includes representative works from major world literary cultures and eras, including post-colonial developments; explores traditions where appropriate. Incorporates analysis of the development of literary forms, developments and transformations of central themes and developments in the historical and cultural contexts of the literature. Includes cross-cultural analysis and exploration of cross-cultural influences in literary culture. Students may begin with either 47A or 47B. (C-ID ENGL 145) (CSU, UC)

ENGL 48 LITERATURE OF SCIENCE FICTION

Units: 3

Advisory: Eligibility for ENGL 1A or ESL 40W

Hours: 54 lecture

Major themes and types of science fiction literature, its primary artists and its literary and historical relevance. (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 with grade of "C" or better, or concurrent enrollment in, ENGL 50L

Hours: 54 lecture

Hours: 54 lecture

Emphasis on inferential comprehension, critical evaluation and academic strategies for college-level texts. Critical academic skills include evaluation of college level texts, analysis of media-based information. 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; AND completion with grade of "C" or better, or concurrent enrollment in, ENGL 50

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

Formerly known as ENGL 400A

Units: 1

Advisory: Eligibility for ENGL A

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 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. Emphasizes the writing process leading to development of skills in writing sentences, single paragraphs and multi-paragraph assignments. Reviews paragraph organization and development, grammar, punctuation, usage and mechanics. Designed for students who need review prior to enrolling in ENGL A. Not open to students who have completed ENGL 571. (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 with grade of "C" or better, 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 with grade of "C" or better, or concurrent enrollment in, ENGL 560

Advisory: Placement by matriculation assessment process

Hours: 54 laboratory

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 with grade of "C" or better or concurrent enrollment in ENGL 570L

Hours: 54 lecture

Focus on literal comprehension skills. Emphasis on vocabulary development, determining main idea, supporting details and patterns of organization, drawing a logical inference and incorporation of these skills into college-level academic literacy. Not open to students who have completed ENGL 571. (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 with grade of "C" or better or concurrent enrollment in ENGL 570

Hours: 54 laboratory

Application of literal comprehension skills to a variety of pre-college level texts. Not open to students who have completed ENGL 571. (not degree applicable)

ENGL 571 INTEGRATED FOUNDATIONS OF READING AND COMPOSITION

Units: 4-6

Prerequisite: Completion of ENGL 560 and 560L with grades of "C" or better, or placement by matriculation assessment process

Hours: 72 lecture (4 units); 108 lecture (6 units)

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. Variable unit course: 4 units accelerated or 6 units standard based upon assessment scores. Course equivalent to ENGL 501, 570 and 570L, combined. Not open to students who have successfully completed ENGL 501, 570, or 570L. (not degree applicable)

ENGL 812 POETRY WRITING AND EXPERIMENT

Units: 0

Hours: 8 to 18 lecture as scheduled

Designed for older adults interested in exploring the writing of poetry. Exercises and experiments with language in writing poetry. Uses primarily American poets (from Walt Whitman to Susan Howe and from George Oppen to Emily Dickinson) 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

Course for older adults interested in exploring the Bible as literature. Close reading of books from the Bible discussed in the historical and cultural context of the times. 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

Course for older adults interested in exploring creative writing. 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

Course for older adults interested in exploring literature. 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: Rebecca Bocchicchio
 ASSOCIATE DEANS: Anne Fleischmann, Susan Lucyga
 DIVISION OFFICE: W 107
 FACULTY: M. Brock, S. Delgadillo, K. Foster, R. Persiani, J. Schamber
 LIAISON COUNSELORS: C. Axton, P. Neal

English as a Second Language (ESL) is a program for non-English-speaking students. Courses are offered for all fluency levels and are based on innovative curriculum and a variety of methods and techniques to fit different learning styles. The program serves students who speak a large variety of languages and offers seven levels of courses from novice to advanced college. At least one year of ESL adult education is recommended for resident students entering at the novice level. There are four courses at most levels: writing, grammar, reading/vocabulary and listening/speaking.

ENGLISH AS A SECOND LANGUAGE ACADEMIC PREPAREDNESS SKILLS CERTIFICATE

The ESL Academic Preparedness Skills Certificate recognizes advanced-low level proficiency in English language writing, reading, listening/speaking and grammar skills. This skills certificate may be used to demonstrate academic preparedness for college courses as well as workplace-ready language skills. This skills certificate is not equivalent to an associate degree.

REQUIRED COURSES:	UNITS
ESL 25G Academic Grammar and Editing	3
ESL 25L Academic Listening and Speaking	3
ESL 30C Academic Reading and Writing for Non-Native Speakers of English OR	
ESL 30R Advanced Reading and Vocabulary AND	
ESL 30W Advanced Writing	5-6
TOTAL UNITS REQUIRED: 11-12	

ENGLISH AS A SECOND LANGUAGE COURSES »

ESL 24P ACCENT REDUCTION AND PRONUNCIATION FOR ESL STUDENTS

Units: 1
Prerequisite: Completion of ESL 520L with grade of "C" or better, or placement through assessment process at or above the ESL 530 level
Advisory: Concurrent enrollment in ESL 530L and/or ESL 25L
Hours: 18 lecture
 Focuses on accent reduction for non-native speakers of English. Offers intensive practice and refinement of pronunciation skills that enable students to sound more like native-speakers of English. (not transferable)

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 30C ACADEMIC READING AND WRITING FOR NON-NATIVE SPEAKERS OF ENGLISH

Units: 5

Prerequisite: Placement by matriculation assessment process or completion of ESL 540C; or ESL 540R and 540W with grade(s) of "C" or better

Hours: 108 (90 lecture, 18 laboratory)

Essay organization, incorporation of academic sources, timed-writing and revision editing. Emphasizes critical thinking skills and evaluation of academic texts for research purposes. Prepares students for ESL 40W or ENGL 1A. Course equivalent to ESL 30W and 30R, combined. Students enrolling in ESL 30C after successfully completing ESL 30W and/or ESL 30R will lose credit for ESL 30W and/or ESL 30R. (CSU)

ESL 30R ADVANCED READING AND VOCABULARY

Units: 3

Prerequisite: Placement by ESL matriculation assessment process or completion of ESL 540C or 540R with 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 540C or 540W with 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/notetaking 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 AND 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 AND 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: 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 515 ESL THROUGH COMPUTER TECHNOLOGY

Units: 3

Hours: 72 (36 lecture, 36 activity)

Introduction for non-native speakers of English to computer parts and function vocabulary, keyboarding, word processing, mySierra, Canvas and internet and software use for language learning. Prepares students for future or current ESL lab classes. (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 530R INTERMEDIATE-MID READING AND VOCABULARY

Units: 3

Prerequisite: Placement by ESL matriculation assessment process or completion of ESL 520R with a grade of "C" or better

Advisory: Concurrent enrollment in ESL 530W, 530G and 530L

Hours: 72 (54 lecture, 18 laboratory)

Multi-skill course emphasizing reading and vocabulary skill development for non-native English speakers. Focus on reading longer more complex texts with greater comprehension and speed and vocabulary and idiom acquisition. (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 540C INTRODUCTION TO ACADEMIC READING AND WRITING

Units: 5

Prerequisite: Placement by ESL matriculation assessment process or completion of ESL 530R and 530W with grades of "C" or better

Advisory: Concurrent enrollment in ESL 25G

Hours: 108 (90 lecture, 18 laboratory)

Introduction for non-native speakers to essay organization, timed-writing and editing, as well as comprehension and evaluation of academic texts. Prepares students for the 30 level courses. Course equivalent to 540R and 540W, combined. Not open to students who have successfully completed ESL 540R or 540W. (not degree applicable)

ESL 540R INTERMEDIATE-HIGH READING AND VOCABULARY

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 540W recommended

Hours: 72 (54 lecture, 18 laboratory)

Intermediate-high reading course for non-native speakers on reading longer academic texts with better understanding, improving reading speed and extensive out-of-class reading. (not degree applicable)

ESL 540W INTERMEDIATE-HIGH WRITING

Units: 3

Prerequisite: Placement by ESL matriculation assessment process or completion of ESL 530W with a grade of "C" or better

Advisory: Concurrent enrollment in ESL 25G, 540R and 25L recommended

Hours: 54 lecture

Intermediate-high writing course for non-native speakers on academic essay organization, timed writing, integration of writing and 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

(See Agriculture, Biological Sciences and Recreation Management)



ENVIRONMENTAL STUDIES AND SUSTAINABILITY

(Also see Construction and Energy Technology)

SCIENCES AND 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 fields including the physical and life sciences, social sciences and philosophy, as well as technical skills utilized in ecosystem assessment and the expanding field of solar energy. In addition to A.S. and transfer opportunities, skills certificates are available in the field of photovoltaics.

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 a counselor for more information on university admission and transfer requirements. Students must fulfill the following major requirements with grades of "C" or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth pattern; or Intersegmental General Education Transfer Curriculum (IGETC).

REQUIRED COURSES:

	UNITS
BIOL 1 General Biology	4
BIOL 2 Botany	4.5
BIOL 3 General Zoology	4
ESCI 1 Physical Geology	3
ECON 1A Principles of Macroeconomics OR	
ECON 1B Principles of Microeconomics	3
ESS 1 The Environment and the Human Impact	3

PLUS 4-6 UNITS FROM:

AGRI 198 Food, Society and the Environment	3
AGRI 221 Introduction to Soil Science	3
ANTH 2 Cultural Anthropology	3
ANTH 14 Globalization Studies	3
BIOL 13 Field Methods in Ecology	3
BIOL 14 Natural History, Ecology and Conservation	4
*BIOL 16 Field Studies in Biology (any) . . . . .	.5-3
BIOL 23 Wildflower Identification	1
BIOL 24 Wildland Trees and Shrubs (Dendrology)	4
CET 40 Beginning Photovoltaic Systems	4
ECON 1A Principles of Macroeconomics OR	
ECON 1B Principles of Microeconomics	3
ESCI 1L Physical Geology Laboratory	1
ESCI 10 Introduction to Earth Science	3
*ESCI 16G Field Paleontology and Ancient Environments (also BIOL 16G)	1-3
*ESCI 54 Saturday Field Geology (any) . . . . .	.5-3
*ESCI 55F Weekend Field Geology	1
ESS 6 The Sierra Nevada	3
ESS 7 Energy, Environment and Climate (also ESCI 7)	3
ESS 10 Conservation of Natural Resources	3
ESS 13 Environmental Regulations	1
GEOG 1 Physical Geography	3
GEOG 2 Cultural Geography	3
GEOG 90 Introduction to Geographic Information Systems (GIS)	3
GEOG 91A Beginning Arc GIS	1
GEOG 91B Intermediate Arc GIS	1
MATH 13 Elementary Statistics	4
PHIL 60 Introduction to Environmental Ethics	3
PSYC 170 Environmental Psychology	3
*A maximum of 3 units may be taken from the BIOL 16 and ESCI 16, 54 and 55 field studies courses.	

TOTAL UNITS REQUIRED: 25.5-27.5

ENVIRONMENTAL STUDIES AND SUSTAINABILITY COURSES »

ESS 1 THE ENVIRONMENT AND THE HUMAN IMPACT

Formerly known as INT 1

Units: 3

Advisory: Eligibility for ENGL 1A or ESL 40W

Hours: 54 lecture

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)

ESS 6 THE SIERRA NEVADA

Formerly known as INT 6

Units: 3

Advisory: Eligibility for ENGL 1A or ESL 40W

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)

ESS 7 ENERGY, ENVIRONMENT AND CLIMATE

Also known as ESCI 7

Units: 3

Advisory: Eligibility for ENGL 1A or ESL 40W

Hours: 54 lecture

Analysis of the nature of energy and the environmental impact of its societal use in the context of Earth's record of changing climate. Explores current global climate change due to post-1750 greenhouse gas emissions and current strategies for mitigation and adaptation to changing climate predictions, including future alternative energy sources. (CSU, UC)

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. Ecological principles, history of the conservation movement, modern problems in resource use and the citizen's role in conservation. (CSU, UC)

ESS 13 ENVIRONMENTAL REGULATIONS

Formerly known as BIOL 13A

Units: 1

Advisory: Completion of BIOL 14 or ESS 10 with grade of "C" or better

Hours: 18 lecture

Survey of major California environmental regulations and relevant federal regulations. Designed using case study analyses to explore environmental laws applicable to water, land and air resources. (CSU)

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. See Independent Study page in catalog. (CSU, UC-with unit limitation)

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

LIBERAL ARTS

DEAN: Rebecca Bocchicchio
 ASSOCIATE DEANS: Anne Fleischmann, Susan Lucyga
 DIVISION OFFICE: W 107
 FACULTY: D. Higashi
 LIAISON COUNSELOR: T. Times

The Fashion program is designed to provide students with the necessary background for careers in the fashion industry or as a basis for advanced study. An A.S. degree, Certificate of Achievement and two Skills Certificates may be earned.

FASHION INDUSTRIES A.S. DEGREE AND/OR CERTIFICATE OF ACHIEVEMENT

The Fashion Industries program is designed to provide students with the necessary background for a variety of careers in the fashion industry or as a basis for advanced study. For the degree, students must fulfill the following major requirements with grades of "C" or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth pattern; or Intersegmental General Education Transfer Curriculum (IGETC). A certificate is designed to provide career technical skills; it is not equivalent to an associate degree.

REQUIRED COURSES:	UNITS
FASH 1 Introduction to Fashion	3
FASH 2 Fashion Analysis and Selection	3
FASH 3 Textiles	3
FASH 4A Basic Clothing Construction	3
FASH 7 Fashion Promotion OR	
FASH 14 Visual Merchandising	3
FASH 8 Fashion Illustration	3
FASH 11 Buying for the Fashion Industry	1
FASH 12 Fashion History OR	
FASH 15 Clothing and Culture	3
FASH 16 Fashion Portfolio Development	3
FASH 28 Independent Study OR	
FASH 95 Internship in Fashion	1
BUS 120 Introduction to Marketing OR	
BUS 123 Retailing	3
BUS 140 Small Business Management	3
TOTAL UNITS REQUIRED: 32	

FASHION DESIGN SKILLS CERTIFICATE

Designed to give students basic support knowledge and abilities required to enter the workforce. Focuses on skills relative to the fields of fashion design, fashion consulting, alterations, wardrobe styling and personal shopping. This is a specialty skills certificate designed to provide career technical skills; it is not equivalent to an associate degree.

REQUIRED COURSES:	UNITS
FASH 2 Fashion Analysis and Selection	3
FASH 3 Textiles	3
FASH 4A Basic Clothing Construction	3
FASH 4B Intermediate Clothing Construction	3
FASH 8 Fashion Illustration	3
TOTAL UNITS REQUIRED: 15	

FASHION MERCHANDISING SKILLS CERTIFICATE

Designed to give students basic support knowledge and abilities required to enter the workforce. Focuses on skills relative to the fields of fashion retail, fashion merchandising, wardrobe styling and personal shopping. This is a specialty skills certificate designed to provide career technical skills; it is not equivalent to an associate degree.

REQUIRED COURSES:	UNITS
FASH 1 Introduction to Fashion	3
FASH 2 Fashion Analysis and Selection	3
FASH 7 Fashion Promotion	3
FASH 11 Buying for the Fashion Industry	1
FASH 14 Visual Merchandising	3
BUS 120 Introduction to Marketing OR	
BUS 123 Retailing OR	
BUS 140 Small Business Management	3
TOTAL UNITS REQUIRED: 16	

FASHION COURSES »

FASH 1 INTRODUCTION TO FASHION

Units: 3

Hours: 54 lecture

Exploration of the diversity and complexities of the fashion business. Career opportunities and qualifications are studied. The relationship between the fashion world and the public, including sources of fashion, influences on fashion and fashion prediction and promotion, are addressed. (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. (CSU)

FASH 3 TEXTILES*Units: 3**Hours: 54 lecture*

Introduction to the study of characteristics and uses of natural and synthetic fibers and fabrics. Emphasizes evaluation and selection of textile products. (CSU, UC)

FASH 4A BASIC CLOTHING CONSTRUCTION*Units: 3**Hours: 108 (27 lecture, 81 laboratory)*

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. (CSU)

FASH 4B INTERMEDIATE CLOTHING CONSTRUCTION*Units: 3**Prerequisite: Completion of FASH 4A with grade of "C" or better**Hours: 108 (27 lecture, 81 laboratory)*

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. (CSU)

FASH 7 FASHION PROMOTION*Units: 3**Hours: 54 lecture*

Emphasis on the role of promotion in the selling and advertising of fashion goods. All avenues of fashion promotion explored and evaluated including: advertising, publicity, special events, fashion show production, direct marketing and target market research. Promotion skills developed through the planning and promotion of special events. (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 Fashion presented with focus on flat sketch. (CSU)

FASH 11 BUYING FOR THE FASHION INDUSTRY*Units: 1**Hours: 18 lecture*

Examines the roles and responsibilities of fashion industry buyers and merchandising managers that must balance the needs of retailers, objectives of vendors and preferences of consumers. The roles of trend forecasting, inventory analysis and assortment planning discussed as they relate to the fashion industry. Introduction to domestic and international fashion markets and market weeks. Prepares students for fashion industry careers as vendors, buyers, or retailers of fashion goods and services. (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. Provides a basis for understanding and appreciating fashion as well as how the times and environment affect styling, colors, fabric and details. Field trip may be required. (CSU)

FASH 14 VISUAL MERCHANDISING*Units: 3**Hours: 72 (36 lecture, 36 activity)*

Introduces contemporary display techniques, equipment and materials for designing three-dimensional product presentations within the retail environment. Emphasis is placed on fashion items and includes the use of mannequins and dress forms. Students complete a window display on campus. Field trips required. (CSU)

FASH 15 CLOTHING AND CULTURE*Units: 3**Hours: 54 lecture*

Study of clothing and its relationship to culture, society and the individual. The psychological and sociological influences of dress, the physical aspects of appearance and the influences of gender, sexuality, ethnicity and class on the development of personal identity are explored through the study of style in traditional cultures, popular culture and everyday life. (CSU)

FASH 16 FASHION PORTFOLIO DEVELOPMENT*Units: 3**Prerequisite: Completion of FASH 4A, 7, 8 and 14 with grades of "C" or better**Hours: 72 (36 lecture, 36 activity)*

Creation and use of fashion portfolio for college transfer to a four year school and/or job interviews in the fashion industries. Students brand and market themselves highlighting individual skills and strengths. Exploration of different presentation styles includes print and digital material. As a culmination of their studies students present the portfolio in interview format as final project. For advanced students. (not transferable)

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 might include, but is not limited to, research papers, special subject area projects and research projects. See Independent Study page in catalog. (CSU)

FASH 95 INTERNSHIP IN FASHION

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 AND TECHNOLOGY

DEAN: Sonja Lolland

ASSOCIATE DEAN: Darlene Jackson

DIVISION OFFICE: B 3

FACULTY COORDINATOR: T. Palmer

AREA OFFICE: Room 205, Roseville Gateway Center, Phone (916) 781-6255

FACULTY: M. Jewett

LIAISON COUNSELORS: C. Axton, 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. 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 July 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 and passing the certification testing process, which may include written and skills performance tests, may then apply to the State of California for a Firefighter I Certificate after successfully completing the task book and experience requirement, one year as a volunteer or reserve firefighter or six months as a full-time paid firefighter with a California fire department. The California State Fire Marshal's Office is working towards nationally accredited certification approved by the International Fire Service Accreditation Congress (IFSAC) and the National Board on Fire Service Professional Qualifications (Pro Board). Students completing the academy will be eligible to apply for these additional certifications in the future.

Other Certificates of Training awarded upon completion of the Academy include: (subject to change)

- Introduction to the Incident Command System—IS 100
- National Incident Management System (NIMS) IS 700A
- Confined Space Awareness
- Hazardous Materials First Responder—Operational (CSTI)
- Fire Control 3B
- Firefighter Survival
- Vehicle Extrication
- CAL FIRE Basic Wildland Firefighter
- S-130 Basic Wildland Firefighter
- S-190 Beginning Fire Behavior
- L-180 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.

COURSES	UNITS
FIRE 150 Command 1A-Structure Fire Operations for the Company Officer	1.5
FIRE 151 Fire Command 1B-Incident Management for Company Officers.	2
FIRE 152 Command 1C—I-Zone Fire Fighting for Company Officers	1.5
FIRE 154 Fire Investigation 1A—Fire Cause, Origin and Determination.	2
FIRE 157 Management and Supervision for Company Officers . .	2
FIRE 158 Prevention 1-Fire Prevention for the Company Officer. .	1.5
FIRE 165 Training Instructor 1A.	1.5
FIRE 166 Training Instructor 1B.	1.5
FIRE 242 I-300: Intermediate ICS for Expanding Incidents	1

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.

	UNITS
FIRE 220 Fire Command 2A—Command Tactics at Major Fires . .	2
FIRE 221 Fire Command 2B—Management of Major 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 TECHNOLOGY A.A. OR A.S. DEGREE AND/OR CERTIFICATE OF ACHIEVEMENT

For the degree, students must fulfill the following major requirements with grades of "C" or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth pattern; or Intersegmental General Education Transfer Curriculum (IGETC). A certificate is designed to provide career technical skills; it is not equivalent to an associate degree.

REQUIRED COURSES:	UNITS
FIRE 1 Fire Protection Organization	3
FIRE 3 Fire Behavior and Combustion	3
FIRE 4 Fire Protection Equipment and Systems.	3
FIRE 5 Fire Prevention Technology	3
FIRE 8 Building Construction for Fire Protection	3
FIRE 10 Principles of Fire and Emergency Services Safety and Survival.	3

PLUS 12 UNITS FROM:

FIRE 7 Fundamentals of Fire Service Operations.	3
FIRE 50 Basic Wildland Firefighter Training	3
FIRE 73 Fire Hydraulics.	3
FIRE 74 Fire Apparatus and Equipment	3
FIRE 75 Wildland Fire Control	3
FIRE 95 Internship in Fire Technology . . . . .	.5-4
FIRE 100 Firefighter I Academy	15
FIRE 150 Command 1A-Structure Fire Operations for the Company Officer	1.5
FIRE 151 Fire Command 1B-Incident Management for Company Officers.	2
FIRE 152 Command 1C—I-Zone Fire Fighting for Company Officers	1.5
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 158 Prevention 1-Fire Prevention for the Company Officer. .	1.5
FIRE 165 Training Instructor 1A.	1.5
FIRE 166 Training Instructor 1B.	1.5
FIRE 167 Training Instructor 1C.	1.5
FIRE 220 Fire Command 2A-Command Tactics at Major Fires. . .	2
FIRE 221 Fire Command 2B—Management of Major 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 I-200: Incident Command System . . . . .	.5
FIRE 242 I-300: Intermediate ICS for Expanding Incidents	1
FIRE 243 I-400: Advanced ICS for Complex Incidents . . . . .	.5
FIRE 262 Fire Investigation 2A: Criminal and Legal Procedures. .	1
FIRE 263 Fire Investigation 2B: Field Case Studies	1

TOTAL UNITS REQUIRED: 30

FIRE TECHNOLOGY COURSES »

FIRE 1 FIRE PROTECTION ORGANIZATION

Units: 3

Hours: 54 lecture

Introduction to the fire service and fire protection. Topics include career opportunities, philosophy and history of the fire service, 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, basic fire chemistry and physics, introduction to fire protection systems, introduction to tactics and strategy, incident command system and National Incident Management System. (CSU-with unit limitation)

FIRE 3 FIRE BEHAVIOR AND COMBUSTION

Units: 3

Advisory: Completion with grade of "C" or better or concurrent enrollment in FIRE 1

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

Hours: 54 lecture

Design, operation, maintenance and inspection of automatic fire sprinkler systems, standpipes, water supply systems, special fire protection systems, smoke management systems and portable fire extinguishers in accordance with local, state and national guidelines. (CSU-with unit limitation)

FIRE 5 FIRE PREVENTION TECHNOLOGY

Units: 3

Advisory: Completion of or concurrent enrollment in FIRE 1

Hours: 54 lecture

History and philosophy of fire prevention technology, 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 with grade of "C" or better or concurrent enrollment in FIRE 1

Hours: 54 lecture

Fundamentals of fire department organization, management and resources and the use of those resources to control various emergencies. Includes safety, operational considerations, evaluation of tactics and strategies with a focus on making behavioral changes for positive outcomes. (CSU-with unit limitation)

FIRE 8 BUILDING CONSTRUCTION FOR FIRE PROTECTION

Units: 3

Advisory: Completion with grade of "C" or better or concurrent enrollment in FIRE 1

Hours: 54 lecture

Basic principles of building construction and how it relates to fire and life safety. Focal points include building history, codes, design process, occupancy types, construction types, components, inspection process relating to preplanning, safety, collapse, expected fire behavior with different building types and materials and fire ground operations. (CSU-with unit limitation)

FIRE 10 PRINCIPLES OF FIRE AND EMERGENCY SERVICES SAFETY AND SURVIVAL

Units: 3

Hours: 54 lecture

Introduces the basic principles and history related to the national firefighter life safety initiatives, focusing on the need for cultural and behavioral change throughout the emergency services. Includes the history of fire service culture; the national context of health and safety; training, equipment and emergency response; organizational health and safety profile; risk management; and public education for fire prevention. (CSU-with unit limitation)

FIRE 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. See Independent Study page in catalog. (CSU-with unit limitation)

FIRE 50 BASIC WILDLAND FIREFIGHTER TRAINING

Units: 3

Hours: 61 (54 lecture, 7 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, S-190, S-134, L-180 and I-100 requirements. (CSU-with unit limitation)

FIRE 73 FIRE HYDRAULICS

Units: 3

Hours: 54 lecture

Investigate the principles and characteristics of water and water flow, water supply systems, fire apparatus and pumps and fire streams. 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 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: 15

Prerequisite: Completion of FIRE 1 with 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 (165 lecture, 335 laboratory)

Designed for entry level firefighters. Approved by the California 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, 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-STRUCTURE FIRE OPERATIONS FOR THE COMPANY OFFICER

Units: 1.5

Prerequisite: Completion of FIRE 100, 158 and 241 with grades of "C" or better

Hours: 40 (23 lecture, 17 laboratory)

Provides an introduction to the principles of command; an overview of the concepts of command safety and the risk management process; pre-incident planning considerations; and command considerations at structure fire incidents, Company Officer initial actions at an incident including the development of incident priorities, strategy and tactics, information on the roles and responsibilities of a Company Officer for post-incident actions. Each student has the opportunity to gain experience in a controlled environment through structure fire incident simulations. (CSU-with unit limitation)

FIRE 151 FIRE COMMAND 1B-INCIDENT MANAGEMENT FOR COMPANY OFFICERS

Units: 2

Prerequisite: Completion of FIRE 150 with grade of "C" or better or completion of a State Fire Marshal certified Fire Command 1A class

Hours: 40 lecture

Responsibilities of the "first-in" officer at incidents involving multiple casualties, hazardous materials and wildland fires. Through the use of simulations, emphasis on the development of management and decision-making practices required for successful scene management. (CSU-with unit limitation)

FIRE 152 COMMAND 1C—I-ZONE FIRE FIGHTING FOR COMPANY OFFICERS

Units: 1.5

Prerequisite: Completion of FIRE 150 and 241 with grades of "C" or better; and S-290 Intermediate Wildland Fire Behavior (NWCG online is acceptable)

Hours: 40 (24 lecture, 16 laboratory)

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

Develop skills to determine the origin and cause of fire, its human and environmental effects and 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 with grade of "C" or better or completion of an approved Fire Investigation 1A class

Hours: 40 lecture

Investigation of 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 company officers, organizational structure, problem solving and decision making, communication, group dynamics, performance evaluations, counseling, legal aspects of supervision, managing change, time management, leadership qualities and traits. (CSU-with unit limitation)

FIRE 158 PREVENTION 1-FIRE PREVENTION FOR THE COMPANY OFFICER

Units: 1.5

Hours: 32 lecture

Fire prevention fundamentals for developing fire prevention techniques at the company officer level: the student will learn basic fire code, construction, occupancy types, fire and life safety, conducting inspections, recording inspection reports and communicating deficiencies and violations to obtain proper correction or mitigation. This course is intended for working fire-fighters. (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 with grade of "C" or better or successful completion of State Fire Marshal 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 successful completion of State Fire Marshal 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 220 FIRE COMMAND 2A—COMMAND TACTICS AT MAJOR FIRES

Units: 2

Prerequisite: Completion of FIRE 150 and 242 with grades of "C" or better

Hours: 40 lecture

Emphasis on the latest emergency management techniques, efficient utilization of resources and implementation of fireground safety principles when commanding multiple alarms or large suppression forces. (not transferable)

FIRE 221 FIRE COMMAND 2B—MANAGEMENT OF MAJOR HAZ-MAT INCIDENTS

Units: 2

Prerequisite: Completion of FIRE 151, 220 and 242 with grades of "C" or better

Hours: 40 lecture

Provides Incident Commanders with the skills and competency necessary to mitigate an incident, initiate remedial action and ensure the restoration of normal services with a comprehensive resource management approach. Students participate in simulated incident scenarios and mock civil court settings. (not transferable)

FIRE 222 FIRE COMMAND 2C—HIGH RISE FIRE TACTICS

Units: 2

Prerequisite: Completion of FIRE 220 and 242, or 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 220 and 242 with grades of "C" or better

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 study analysis of natural and man-made disasters. (not transferable)

FIRE 224 FIRE COMMAND 2E—WILDLAND FIRE TACTICS

Units: 2

Prerequisite: Completion of FIRE 152, 220 and 242 with grades of "C" or better; or completion of the equivalent California State Fire Marshal courses

Hours: 40 lecture

Designed for Chief Officers having command responsibilities at wildland fires. 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 I-200: INCIDENT COMMAND SYSTEM

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. ICS 200 certification is the minimum requirement for attending ICS 200 level courses and functioning in a Unit Leader position during an incident. (not transferable)

FIRE 242 I-300: INTERMEDIATE ICS FOR EXPANDING INCIDENTS

Units: 1

Prerequisite: Completion of FIRE 241 with grade of "C" or better

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 with grade of "C" or better

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 262 FIRE INVESTIGATION 2A: CRIMINAL AND LEGAL PROCEDURES

Units: 1

Prerequisite: Completion of FIRE 154 and 155 with grades of "C" or better, or Fire Investigation 1A and 1B certified by CA State Fire Marshal's Office

Hours: 40 (20 lecture, 20 laboratory)

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: 1

Prerequisite: Completion of FIRE 262 with grade of "C" or better, or Fire Investigation 2A certified by California State Fire Marshal's Office

Hours: 40 (16 lecture, 24 laboratory)

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 608 BASIC STRUCTURAL FIREFIGHTER

Units: 4.5

Hours: 150 (55 lecture, 95 laboratory)

Entry-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. (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 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 BASIC WILDLAND FIREFIGHTER TRAINING

Units: 3.5

Hours: 80 (58 lecture, 22 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 630 IN-SERVICE TRAINING

Units: 0.5-5

Prerequisite: Completion of FIRE 100 with grade of "C" or better

Hours: 27 (9 lecture, 18 laboratory) per .5 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. (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. May be repeated to meet legally mandated requirements. (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

Instruction in identifying a permit and non-permit required confined space, the hazards associated with confined spaces, target industries and hazards, state regulations, communications and equipment requirements. This course does not qualify participants to make permit required entries. (pass/no pass grading) (not degree applicable)

FIRE 638 LOW ANGLE ROPE RESCUE OPERATIONAL

Units: 0.5

Hours: 24 (8 lecture, 16 laboratory)

Designed to equip the student with the techniques and methods for using rope, webbing, hardware friction devices and litters in low angle rescue situations. Areas covered include rope and related equipment, anchor systems, safety lines, stretcher lashing and rigging, mechanical advantage systems and single and two line rescue systems. (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 with grade of "C" or better 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 with grade of "C" or better 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 with grade of "C" or better 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 with grade of "C" or better 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 with grade of "C" or better or approved Federal/State equivalent course(s)

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 with grade of "C" or better or approved federal/state equivalent course(s)

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)

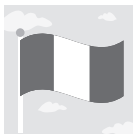
FIRE 650 RESCUE SYSTEMS I

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

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)



FRENCH

LIBERAL ARTS

DEAN: Rebecca Bocchicchio

ASSOCIATE DEANS: Anne Fleischmann, Susan Lucyga

DIVISION OFFICE: W 107

FACULTY: L. Lambert

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 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—LEVEL I

Units: 4

Hours: 72 lecture

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—LEVEL II

Units: 4

Prerequisite: Completion of FREN 1 or two years of high school French with grade(s) of "C" or better

Hours: 72 lecture

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—LEVEL I

Units: 4

Prerequisite: Completion of FREN 2 or three years of high school French with grade(s) of "C" or better

Hours: 72 lecture

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—LEVEL II

Units: 4

Prerequisite: Completion of FREN 3 or four years of high school French with grade(s) of "C" or better

Hours: 72 lecture

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. 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)



GEOGRAPHY

SCIENCES AND MATHEMATICS

DEAN: Heather Roberts

ASSOCIATE DEAN: Michael Kane

DIVISION OFFICE: V 211

FACULTY: S. Booth, C. Cox

LIAISON COUNSELOR: Rebecca Ortega

The Geography Department offers transfer courses to four-year colleges in diverse academic disciplines such as Geography, Geographic Information Systems (GIS), Earth Science, Environmental Science, Meteorology, Climatology, Natural Resource Management, Tourism and Recreation, Urban Planning, International Studies, Anthropology and related social sciences. Emphasis in advancing geographic literacy, global awareness and sustainability in the fields of physical and human geography; field study classes provide experiential and interpretive training. Additional technical courses provide expertise in the exciting and fast-growing field of GIS and GeoSpatial technologies. A skills certificate is offered in GIS.

GEOGRAPHY FOR TRANSFER AA-T DEGREE

The Associate in Arts in Geography for Transfer degree (AA-T) program provides students with a strong foundation in Geography. Upon completion of the program, students will demonstrate knowledge of global physical and environmental processes; formulate an appreciation of world cultural diversity, including demographics, ethnic studies, agricultural practices, economic development and resource consumption; generate solutions for a sustainable future; holistically assess integrative environmental and cultural phenomenon based on location and maps; assemble and analyze spatial information (such as maps, data, surveys, qualitative observations), using traditional and modern mapping technology methods; and integrate cultural, environmental and geographic technology methods.

The Associate in Arts in Geography for Transfer degree (AA-T) prepares students to transfer into the CSU system to complete a bachelor's degree in Geography or a major deemed similar by a CSU campus. Students earning an associate degree for transfer and meeting the CSU minimum transfer admission requirements are guaranteed admission with junior standing to the CSU system, but not to a particular campus or major. Upon transfer, students will be required to complete no more than 60 additional prescribed units to earn a bachelor's degree.

To earn the Associate in Arts in Geography for Transfer degree, students must complete 60 CSU-transferable semester units with a minimum grade point average of 2.0, including both of the following:

- completion of all courses required for the major with grades of "C" or better; and
- completion of the California State University General Education Breadth (CSU GE) pattern or the Intersegmental General Education Transfer Curriculum (IGETC) pattern.

It is highly recommended that, prior to transferring, students complete courses that satisfy the CSU United States History, Constitution

and American Ideals graduation requirement. In all cases, students should consult with a counselor for more information on university admission and transfer requirements.

REQUIRED COURSES:	UNITS
GEOG 1 Physical Geography	3
GEOG 1L Physical Geography Laboratory.	1
GEOG 2 Cultural Geography	3

PLUS 6-8 UNITS FROM:	
GEOG 3 Geography of California.	3
GEOG 4 Weather and Climate.	3
GEOG 5 World Regional Geography.	3
GEOG 11 Urban Geography of San Francisco OR	
GEOG 12 Historical Geography of Northern California	
Communities OR	
GEOG 14 Field Geography of Yosemite and the Eastern	
Sierra OR	
GEOG 16 Field Geography.	1-2
GEOG 90 Introduction to Geographic Information Systems (GIS)	3

PLUS 6-7 UNITS FROM THE FOLLOWING OR UNUSED COURSES FROM THE PRECEDING AREA:	
ANTH 2 Cultural Anthropology	3
ESCI 1 Physical Geology.	3
MATH 13 Elementary Statistics	4
TOTAL UNITS REQUIRED: 19-22	

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. Sequence of courses build upon each other to provide hands-on technical skills demanded of the professional workforce, culminating with a professional map portfolio and repertoire of spatial analysis skills. Opportunities for interns and entry-level positions are abundant, provided students learn industry-standard software, GPS skills, database management and mapping design. Students must choose from additional courses, such as computer-aided design (CAD), database management, computer programming, surveying, spatial analysis and are encouraged to participate in an internship. A skills certificate is designed to provide career technical skills; it is not equivalent to an associate degree.

REQUIRED COURSES:	UNITS
GEOG 86 Global Positioning System (GPS) For GIS	1
GEOG 90 Introduction to Geographic Information Systems (GIS)	3
GEOG 92 Intermediate GIS	3
GEOG 93 Advanced GIS.	3

PLUS 6 UNITS FROM:	
CIS 90 Database Management	3
CSCI 12 Programming Concepts and Methodology I	3
CSCI 52 Introduction to SQL	3
DES 5 Computer-Aided Drafting IA.	3
DES 6 Computer-Aided Drafting IB.	3

ENGR 10 Engineering Survey Measurements	4
GEOG 85 Application of Geospatial Technologies.	1
GEOG 91B Intermediate Arc GIS	1
GEOG 94 Geospatial Analysis	3
GEOG 95 Internship in Geography	1-3
TOTAL UNITS REQUIRED: 16	

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: Concurrent enrollment in or completion of GEOG 1 with grade of "C" or better

Hours: 54 laboratory

Earth's physical systems, atmosphere, weather and climate, landforms and fluvial systems; includes map reading and investigating remote sensing, GPS and Geographic Information Systems (GIS). (C-ID GEOG 111) (CSU, UC)

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. (C-ID GEOG 120) (CSU, UC)

GEOG 3 GEOGRAPHY OF CALIFORNIA

Units: 3

Advisory: Eligibility for ENGL 1A or ESL 40W

Hours: 54 lecture

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. (C-ID GEOG 140) (CSU, UC)

GEOG 4 WEATHER AND CLIMATE

Units: 3

Advisory: Eligibility for ENGL 1A or ESL 40W

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. (C-ID GEOG 130) (CSU, UC)

GEOG 5 WORLD REGIONAL GEOGRAPHY

Units: 3

Advisory: Eligibility for ENGL 1A or ESL 40W

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. (C-ID GEOG 125) (CSU, UC)

GEOG 11 URBAN GEOGRAPHY OF SAN FRANCISCO

Units: 1

Hours: 30 (12 lecture, 18 laboratory)

Exploration of the cultural, economic and urban geography of San Francisco. This field course provides an introduction to the area's diversified geography including its location, ethnic diversity, urban settlement patterns and an overview of historical and economic regions. Students may be required to walk moderate distances. Additional fees may be required. (C-ID GEOG 160) (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. (C-ID GEOG 160) (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. This field course emphasizes fluvial and glacial landforms, geological patterns, weather and climate regions and the distribution of water resources. Cultural geographies include patterns of Native American and early pioneer settlements, current land use and economic activities. May involve light hiking. Additional fees may be required. (C-ID GEOG 160) (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. This field course provides an introduction to the area's diversified geography including its location, physical landforms, economic diversity, urban settlement patterns and an overview of historical and cultural regions. May involve light hiking. Additional fees may be required. (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. (C-ID GEOG 160) (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. See Independent Study page in catalog. (CSU, UC-with unit limitation)

GEOG 85 APPLICATION OF GEOSPATIAL TECHNOLOGIES*Units: 1**Hours: 18 lecture*

Investigation of GIS case studies used in industry and government; explores how industry uses GIS with emphasis on natural resource management and watershed analysis. Additional focus on remote sensing, aerial photography, GPS technology. (CSU)

GEOG 86 GLOBAL POSITIONING SYSTEM (GPS) FOR GIS*Units: 1**Hours: 18 lecture*

Global Positioning System (GPS) theory, techniques and case studies, GPS set-up, spatial database organization, field collection, editing and integration into the GIS. Culminates with final GPS mapping project. (CSU)

GEOG 90 INTRODUCTION TO GEOGRAPHIC INFORMATION SYSTEMS (GIS)*Units: 3**Hours: 54 lecture*

Study of Geographic Information Systems (GIS) and its applications to spatial data management. Project design, data acquisition, database management, geographic analysis and map design. Explores how GIS solves spatial problems, such as those in natural resources, earth and life sciences, environmental planning, local government, business, transportation and other fields. (C-ID GEOG 155) (CSU)

GEOG 91A BEGINNING ARC GIS*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*Units: 1*

Prerequisite: Completion with a grade of "C" or better, or concurrent enrollment in GEOG 90 or 91A

Hours: 18 lecture

Builds on basic principles of ArcGIS, 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 with grade of "C" or better

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 increasing GIS functionality to solve spatial problems. Focus on case studies and data gathering. (CSU)

GEOG 93 ADVANCED GIS*Units: 3*

Prerequisite: Completion of GEOG 92 with grade of "C" or better

Hours: 54 lecture

Builds on Intermediate GIS focusing on advanced technical skills and mapping, such as working with spatial databases, GIS models, vector and raster analysis, cartographic presentation and various outputs. Student completes a research project and assembles a map portfolio. (CSU)

GEOG 94 GEOSPATIAL ANALYSIS*Units: 3*

Prerequisite: Completion of GEOG 90 or 91B with grade of "C" or better

Hours: 54 lecture

Geospatial analysis reveals patterns, relationships and trends that solve real-world challenges. With advanced GIS tools, students create surface contours, derive slopes, calculate flow direction, draw watersheds, determine line of sight and identify hotspots. ESRI Spatial Analyst and 3D Analyst extensions are used. (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 only when a topic is different from previously completed course. See Selected Topics page in catalog. (CSU, UC-with unit limitation)

GEOLOGY

(See Earth Science)



GERMAN

LIBERAL ARTS

DEAN: Rebecca Bocchicchio

ASSOCIATE DEANS: Anne Fleischmann, Susan Lucyga

DIVISION OFFICE: W 107

LIAISON COUNSELOR: D. Quadros

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 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—LEVEL I*Units: 4**Hours: 72 lecture*

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—LEVEL II*Units: 4*

Prerequisite: Completion of GER 1 or two years of high school German with grade(s) of "C" or better

Hours: 72 lecture

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 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. See Independent Study page in catalog. (CSU, UC-with unit limitation)



HEALTH EDUCATION

HEALTH, PHYSICAL EDUCATION, RECREATION/ATHLETICS

DEAN: Lucas Moosman

DIVISION OFFICE: Ft

FACULTY: D. Brownell, M. Conway, S. Decker, E. Eaton, H. Eubanks, J. Fusano, J. Gantt, R. Goldenberg, B. Murrish, V. Nelson, B. Noonan, J. Tisdell, R. Willson
LIAISON COUNSELORS: S. Muraki, T. Times

Health Education is designed to provide students with essential information for the evaluation and maintenance of individual health, stressing the mental, social and physical well-being of the individual.

HEALTH EDUCATION COURSES »

HED 1 STANDARD FIRST AID/COMMUNITY CPR

Units: 3

Hours: 54 lecture

Course involves theory and detailed demonstration of first aid care of the injured. Students learn to assess a victim's condition and incorporate proper treatment. Standard first aid, CPR and AED certifications granted upon successful completion of requirements. Recognition and treatment for cardiac and respiratory emergencies, first aid for bleeding, shock, burns, poisoning, stroke and various injuries. (C-ID KIN 101) (CSU, UC)

HED 2 HEALTH EDUCATION

Units: 3

Hours: 54 lecture

Studies aspects of mental, emotional and physical health. Emphasis placed on knowledge for development of attitude, understanding and practice of a preventive life style for healthy living and optimal wellness. Specific instructional areas include chronic diseases, physical activity, nutrition, weight management, birth control methods, human sexuality, alcohol, tobacco and illicit chemical use, stress and factors that contribute to wellness and longevity. Experience in personal health assessment and the changing of health behaviors is stressed. (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)



HEALTH SCIENCES

BUSINESS AND TECHNOLOGY

DEAN: Sonja Lolland

ASSOCIATE DEAN: Darlene Jackson

DIVISION OFFICE: B 3

AREA OFFICE: Room 205, Roseville Gateway Center,
Phone (916) 781-6250

FACULTY: D. Sinclair

LIAISON COUNSELORS: S. Muraki, T. Times

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

Units: 6.5

Prerequisite: Students must be 18 years of age at start of course; provide CPR certification from American Heart Association BLS (Basic Life Support) for Healthcare Providers or a Professional Rescuer CPR card from American Red Cross; provide proof of measles, mumps and rubella (MMR) immunization; provide negative tuberculin skin test taken within 3 months of start of course; provide proof of varicella vaccine, proof of immunization, or positive varicella titer test; hepatitis B vaccine series completed with positive Hep B titer test, OR signed refusal form; current flu shot vaccination; and criminal background check clearance
Advisory: Completion of HSCI 3, HSCI 7 or BIOL 55 with grades of "C" or better; eligibility for ENGL 11

Hours: 166 (104 lecture, 38 skills laboratory, 24 field clinical laboratory)

Provides knowledge and critical thinking skills necessary to deliver Emergency Medical Care in a prehospital environment. Covers legal and moral aspects, scene safety, primary and secondary patient assessments, intervention and stabilization skills, proper use of emergency medical equipment, awareness of bloodborne pathogens and communicable diseases, recognizing signs and symptoms and pathophysiology of medical emergencies and traumatic injuries. Includes practical hands-on skills training and interactive simulations. Clinical experience is an assigned field ride-along and/or clinical hospital observation. Attendance and participation are mandatory; a cumulative score of 80% on all written quizzes and exams and passing score on all practical skills testing are required for successful course completion. Meets updated National Education Standards for EMT curriculum and all requirements of the California Code of Regulations Title 22, the California EMS Authority and the National Registry of Emergency Medical Technicians (NREMT). Upon successful completion, student is eligible to take the NREMT EMT examination and qualify for a California State EMT certification. (not transferable)

HSCI 3 MEDICAL TERMINOLOGY

Units: 3

Hours: 54 lecture

Comprehensive overview of the medical language using a systems oriented approach of the human body. Covers the formation, spelling, correct pronunciation and proper usage of common medical terms and abbreviations. The terminology is relative to the medical applications used within a wide variety of health care professions. Course meets the prerequisite requirements of numerous allied health care training programs and is highly recommended as a preparatory course for EMT, Paramedic and Nursing programs. (CSU)

HSCI 7 EMERGENCY MEDICAL RESPONDER

Units: 3

Hours: 72 (54 lecture, 18 laboratory)

Course involves the theory and practical skills training required to be certified as an EMR-Emergency Medical Responder. Comprehensive training includes oxygen therapy and delivery, basic airway adjuncts, positive pressure ventilation, bleeding control, extremity splinting and spinal immobilization. Emphasizes systematic patient assessment, critical thinking and medical interventions at the first responder level. Meets the National and State requirements for certification as an Emergency Medical Responder. The American Heart Association Basic Life Support for the Health Care Provider CPR card and an Emergency Medical Responder Certificate of Completion will be issued with a grade of "C" or better. Highly recommended as a preparatory course prior to enrolling in HSCI 2. (not transferable)

HSCI 50 PARAMEDIC PREPARATORY TRAINING

Units: 3.5

Prerequisite: Completion of HSCI 2 with grade of "C" or better; must be currently certified as an EMT in the State of California OR eligible for a National Registry Certification

Hours: 80 (60 lecture, 20 laboratory)

Introduces the knowledge and critical thinking skills necessary to prepare for a paramedic program. Course is assessment based with focus on EMT and paramedic interventions; EKG recognition and interpretation; pharmacology; advanced airway management; IV and IO fluid and drug administration; basic anatomy, physiology and principles of pathophysiology; introduction to local, state and national ALS protocols. Practical skills lab sessions focus on improving patient assessment techniques, realistic case study scenarios and introduction to paramedic ALS skills and interventions. Course format is interactive and simulates the intense pace and discipline required of an approved paramedic program curriculum. Student participation, passing of written exams and practical skills assessments, required for successful completion. Meets the mandated EMT transition requirements of the National Registry of Emergency Medical Technicians (NREMT) and the gap curriculum identified by the National Association of state EMS officials (NASEMSO). (not transferable)

HSCI 600 EMERGENCY MEDICAL TECHNICIAN CONTINUING EDUCATION

Units: 1

Prerequisite: Must be eligible for certification or re-certification as an EMT in the State of California

Hours: 24 (16 lecture, 8 laboratory)

Provides 24 hours of continuing education required for state re-certification as an Emergency Medical Technician (EMT). Reviews current standards for airway management and ventilation, patient assessment, cardiac care and resuscitation, injury management and stabilization, legal and ethical issues, vital signs, assisting with medication administration and review of the updated and optional EMT scope of practice. Students update their psychomotor skills and demonstrate proficiency in organized skills labs. Students that successfully complete the course receive a certificate of completion. May be repeated for credit to meet legally mandated continuing education and re-certification requirements. (pass/no pass grading) (pass/no pass grading) (not degree applicable)



HISTORY

LIBERAL ARTS

DEAN: Rebecca Bocchicchio

ASSOCIATE DEANS: Anne Fleischmann, Susan Lucyga

DIVISION OFFICE: W 107

FACULTY: D. DeFoe, J. Hester, D. Kuchera, S. Lamphere, L. Medeiros, A. Myers

LIAISON COUNSELORS: B. Gosney, 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 FOR TRANSFER AA-T DEGREE

History is a broadly based discipline that explores the human condition through its historical development. Courses explore a variety of regions and time periods, using both primary and secondary sources to examine the people, institutions, ideas and events of the past and present. By developing skills in critical thinking and expanding their understanding of cultural diversity, students will strengthen their understanding of the past and perspective on the future.

The Associate in Arts in History for Transfer degree (AA-T) prepares students to transfer into the CSU system to complete a bachelor's degree in History or a major deemed similar by a CSU campus. Students earning an associate degree for transfer and meeting the CSU minimum transfer admission requirements are guaranteed admission with junior standing to the CSU system, but not to a particular campus or major. Upon transfer, students will be required to complete no more than 60 additional prescribed units to earn a bachelor's degree.

To earn the Associate in Arts in History for Transfer degree, students must complete 60 CSU-transferable semester units with a minimum grade point average of 2.0, including both of the following:

- completion of all courses required for the major with grades of "C" or better; and
- completion of the California State University General Education Breadth (CSU GE) pattern or the Intersegmental General Education Transfer Curriculum (IGETC) pattern.

It is highly recommended that, prior to transferring, students complete courses that satisfy the CSU United States History, Constitution and American Ideals graduation requirement. In all cases, students should consult with a counselor for more information on university admission and transfer requirements.

REQUIRED COURSES:	UNITS
HIST 17A History of the United States to 1877	3
HIST 17B History of the United States since 1865	3

PLUS 6 UNITS FROM:	
HIST 4A Western Civilization to 1715 OR	
HIST 50 World History to 1500	3
HIST 4B Western Civilization since 1715 OR	
HIST 51 World History since 1500.	3

PLUS 3 UNITS FROM THE FOLLOWING (IF NOT USED ABOVE):	
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 50 World History to 1500	3
HIST 51 World History since 1500.	3

PLUS 3 UNITS FROM THE FOLLOWING OR UNUSED COURSE FROM THE PRECEDING AREAS:	
HIST 18A The African American Experience in American History to 1877	3
HIST 18B The African American Experience in American History since 1877	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
TOTAL UNITS REQUIRED: 18	

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 a fuller 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 a counselor for more information on university admission and transfer requirements. Students must fulfill the following major requirements with grades of "C" or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth pattern; or Intersegmental General Education Transfer Curriculum (IGETC).

REQUIRED COURSES 6 UNITS FROM:	
HIST 17A History of the United States to 1877	3
HIST 17B History of the United States since 1865	3
HIST 18A The African American Experience in American History to 1877	3
HIST 18B The African American Experience in American History since 1877	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:	
HIST 4A Western Civilization to 1715	3
HIST 4B Western Civilization since 1715	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 50 World History to 1500	3
HIST 51 World History since 1500.	3

PLUS 6 UNITS FROM UNUSED COURSES IN THE PRECEDING REQUIREMENTS:	
	6

TOTAL UNITS REQUIRED: 18

HISTORY COURSES »

HIST 4A WESTERN CIVILIZATION TO 1715

Units: 3

Advisory: Eligibility for ENGL 1A or ESL 40W

Hours: 54 lecture

Survey of the development of western culture, from its beginning to 1715, interrelating political and social events with art, literature and philosophy; covering the ancient Middle East, Greece, Rome, Late Antiquity, the Medieval era and early Modern Europe. (CSU, UC)

HIST 4B WESTERN CIVILIZATION SINCE 1715

Units: 3

Advisory: Eligibility for ENGL 1A or ESL 40W

Hours: 54 lecture

Survey of European history and the development of western culture, from 1715 to present, interrelating political and social events with art, literature and philosophy; covering the Ancient Regime, the Age of Democratic Revolutions, industrialization, the rise of fascism and communism, the two world wars, the Cold War, the postwar era and the European Union. (C-ID HIST 180) (CSU, UC)

HIST 17A HISTORY OF THE UNITED STATES TO 1877

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 SINCE 1865

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 18A THE AFRICAN AMERICAN EXPERIENCE IN AMERICAN HISTORY TO 1877

Units: 3

Advisory: Eligibility for ENGL 1A or ESL 40W

Hours: 54 lecture

History of African Americans from the pre-European West African city state kingdoms to the end of Reconstruction; major events in America's development emphasizing the role of people of African descent in the political, social and economic life of the United States; the institution of slavery; free blacks in the North and the abolitionist movement. (CSU, UC)

HIST 18B THE AFRICAN AMERICAN EXPERIENCE IN AMERICAN HISTORY SINCE 1877

Units: 3

Advisory: Eligibility for ENGL 1A or ESL 40W

Hours: 54 lecture

History of African Americans in the United States since the Civil War; major events in America's development emphasizing the role of people of African descent in the political, social and economic life of the United States; Reconstruction; Jim Crow era; Booker T. Washington and W.E.B. DuBois; the Civil Rights Movement; and African Americans in the Reagan-Bush and Clinton eras. (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 prehistoric 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

Study of American Military History, from 1774 to present, covering the American War of Independence, War of 1812, the Barbary Wars, Mexican American War, Civil War, Native American Wars, Spanish American War, Boxer Rebellion, World War I, World War II, Korea, Vietnam, Gulf War of 1991, Afghanistan 2002 and Iraq Freedom 2003. Includes the reading of historical works, literature and historical documents. Examines the Powell Doctrine, the Principles of War and the reasons and causes of war. (CSU, UC)

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 Chicanas/os in the United States regarding culture, economy, government, law, education 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 post-Soviet era. 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. See Independent Study page in catalog. (CSU, UC-with unit limitation)

HIST 50 WORLD HISTORY TO 1500

Units: 3

Advisory: Eligibility for ENGL 1A or ESL 40W

Hours: 54 lecture

Survey to 1500 of the political, economic, social, geographic and religious/philosophical characteristics of the major world civilizations and the interactions among these civilizations. (CSU, UC)

HIST 51 WORLD HISTORY SINCE 1500

Units: 3

Advisory: Eligibility for ENGL 1A or ESL 40W

Hours: 54 lecture

Survey from 1500 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

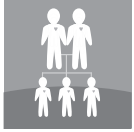
Units: 0.5-4

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 AND TECHNOLOGY

DEAN: Sonja Lolland

ASSOCIATE DEAN: Darlene Jackson

DIVISION OFFICE: B 3

FACULTY: D. Eastman, L. Kearney-Capaul, J. Quinlan

LIAISON COUNSELORS: T. Maddux, Rebecca Ortega

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 and 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 FOR TRANSFER AS-T DEGREE

The Associate in Science in Early Childhood Education for Transfer degree (AS-T) provides a clearly articulated curricular track to complete a bachelor's degree in Early Development, Care and Education (EDCE) for students who wish to transfer to CSU Sacramento. Completion of this degree involves a cohort of Sierra College students who meet for classes in Placer County as part of a partnership with CSUS. The cohort structure provides for additional student support, while the format better meets the needs of working adults. The degree provides a curricular track for students planning to transfer to other CSU campuses with the following bachelor's degrees: Child Development, Child and Adolescent Development, Human Development and Education.

The required courses are part of the CA Curriculum Alignment Project, Lower Division 8 coursework and expose students to the core principles and practices of the field in order to build a foundation for future personal, academic, or career paths. Students will be able to identify and evaluate factors that influence children's development; analyze early childhood programs for developmentally appropriate practices and program effectiveness; and exhibit professionalism within the field of Early Childhood Education by demonstrating skills relevant to the field.

Additionally, this degree is designed to facilitate students' successful transfer to CSU campuses that prepare them for advanced study in a variety of graduate programs, as well as a variety of careers such as teaching, Child Development Specialist, Program Directors and Child Life Specialists. With a BA in ECE/Child Development, students are eligible for the Master Teacher and Site Supervisor levels of the CA Child Development Permit, using the Alternative Qualifications category.

Students earning an Associate in Science in Early Childhood Education for Transfer degree and meeting the CSU minimum transfer admission requirements are guaranteed admission with junior standing to the CSU system, but not to a particular campus or major. Upon transfer, students will be required to complete no more than 60 additional prescribed units to earn a bachelor's degree.

To earn the Associate in Science in Early Childhood Education for Transfer degree, students must complete 60 CSU-transferable semester units with a minimum grade point average of 2.0, including both of the following:

- completion of all courses required for the major with grades of C or better; and
- completion of the California State University General Education Breadth (CSU GE) pattern or the Intersegmental General Education Transfer Curriculum (IGETC) pattern.

It is highly recommended that, prior to transferring, students complete courses that satisfy the CSU United States History, Constitution and American Ideals graduation requirement. In all cases, students should consult with a counselor for more information on university admission and transfer requirements.

REQUIRED COURSES:	UNITS
HDEV 2 Principles and Practices of Early Childhood Education. . .	3
HDEV 3 Observation, Documentation and Assessment in ECE. . .	3
HDEV 4 Child, Family and Community.	3
HDEV 5 Introduction to Curriculum	3
HDEV 7 Health, Safety and Nutrition	3
HDEV 9 Child and Adolescent Development.	3
HDEV 10 Practicum/Field Experience in Early Childhood Education	4.5
HDEV 25 Culture and Diversity in Early Childhood Education. . .	3
TOTAL UNITS REQUIRED: 25.5	

**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:	UNITS
HDEV 2 Principles and Practices of Early Childhood Education. . .	3
HDEV 4 Child, Family and Community.	3
HDEV 5 Introduction to Curriculum	3
HDEV 9 Child and Adolescent Development.	3
TOTAL UNITS REQUIRED: 12	

**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:

- HDEV 2 Principles and Practices of Early Childhood Education
- HDEV 4 Child, Family and Community
- HDEV 5 Introduction to Curriculum
- HDEV 9 Child and Adolescent Development
- 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 OF ACHIEVEMENT
(FORMERLY CHILDHOOD 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:	UNITS
HDEV 2 Principles and Practices of Early Childhood Education. . .	3
HDEV 3 Observation, Documentation and Assessment In ECE. . .	3
HDEV 4 Child, Family and Community.	3
HDEV 5 Introduction to Curriculum	3
HDEV 7 Health, Safety and Nutrition	3
HDEV 9 Child and Adolescent Development.	3
HDEV 10 Practicum/Field Experience in Early Childhood Education	4.5
HDEV 25 Culture and Diversity in Early Childhood Education. . .	3

**PLUS 16 GENERAL EDUCATION UNITS, INCLUDING AT
LEAST ONE COURSE IN EACH OF THE FOLLOWING AREAS:**
Humanities
Social/Behavioral Sciences
Mathematics and/or Natural Sciences
English 16
(See pages 44-45)
TOTAL UNITS REQUIRED: 41.5

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:

- 12 core units (HDEV 2, 4, 5, 9)
- 12 HDEV/ECE elective units
- 16 General Education units
- 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 the following major requirements with grades of "C" or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education (CSU GE) Breadth pattern; or Intersegmental General Education Transfer Curriculum (IGETC).

REQUIRED COURSES:

UNITS

HDEV 2 Principles and Practices of Early Childhood Education. . .	3
HDEV 3 Observation, Documentation and Assessment In ECE. . .	3
HDEV 4 Child, Family and Community.	3
HDEV 5 Introduction to Curriculum	3
HDEV 7 Health, Safety and Nutrition	3
HDEV 9 Child and Adolescent Development.	3
HDEV 10 Practicum/Field Experience in Early Childhood Education	4.5
HDEV 25 Culture and Diversity in Early Childhood Education . . .	3

TOTAL UNITS REQUIRED: 25.5

EARLY CHILDHOOD EDUCATION—MASTER

TEACHER

A.A. OR A.S. DEGREE

(FORMERLY CHILD DEVELOPMENT MASTER TEACHER)

Students must fulfill the following major requirements with grades of "C" or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth (CSU GE) pattern; or Intersegmental General Education Transfer Curriculum (IGETC).

REQUIRED COURSES:

UNITS

HDEV 2 Principles and Practices of Early Childhood Education. . .	3
HDEV 3 Observation, Documentation and Assessment In ECE. . .	3
HDEV 4 Child, Family and Community.	3
HDEV 5 Introduction to Curriculum	3
HDEV 7 Health, Safety and Nutrition	3
HDEV 9 Child and Adolescent Development.	3
HDEV 10 Practicum/Field Experience in Early Childhood Education	4.5
HDEV 25 Culture and Diversity in Early Childhood Education . . .	3
HDEV 38 Adult Supervision: Mentoring in ECE Settings.	2

PLUS 6 UNITS IN AN AREA OF SPECIALIZATION FROM:

HDEV 11 Infant and Toddler Development AND HDEV 12 Infant/Toddler Care and Education	6
OR	
HDEV 43 Music and Movement for Young Children AND MUS 10 Music Fundamentals	6
OR	
HDEV 19 Exceptional Development: Inclusion of Special Needs Children AND DFST 1 American Sign Language I	7
OR	
HDEV 21/PSYC 110 Psychology of Marriage and Family AND HDEV 22/SOC 4 The Family OR HDEV 23 Dynamics of Parenthood.	6
OR	
HDEV 29 Storytelling and Puppetry AND HDEV 44/ENGL 44 Introduction to Children's Literature OR HDEV 46 Language and Literacy.	6
OR	
HDEV 30 Creative Process in Children AND ART 2 Two-Dimensional Design Foundations OR ART 10 Art Appreciation.	6

TOTAL UNITS REQUIRED: 33.5

CHILD DEVELOPMENT PERMIT—MASTER TEACHER

A Child Development Master 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 all of the above. A Master Teacher may also be a coordinator of curriculum and staff development in a child care and development program. The student must apply to the Commission on Teacher Credentialing for a Child Development Permit at the Master Teacher level after completing the following 48 units and appropriate work experience:

- 12 core units (HDEV 2, 4, 5, 9)
 - 12 HDEV/ECE elective units
 - 16 GE units
 - 2 Adult Supervision units (HDEV 38)
 - 6 specialization units (listed below)
 - Work experience equaling 350 days of 3 plus hours per day within a 4-year period in a licensed child care facility

 - HDEV 11 Infant and Toddler Development AND
 - HDEV 12 Infant/Toddler Care and Education
 - OR
 - HDEV 43 Music and Movement for Young Children AND
 - MUS 10 Music Fundamentals
 - OR
 - HDEV 19 Exceptional Development: Inclusion of Special Needs Children AND
 - DFST 1 American Sign Language I
 - OR
 - HDEV 21/PSYC 110 Psychology of Marriage and Family AND
 - HDEV 22/SOC 4 The Family OR
 - HDEV 23 Dynamics of Parenthood
 - OR
 - HDEV 29 Storytelling and Puppetry AND
 - HDEV 44/ENGL 44 Introduction to Children’s Literature OR
 - HDEV 46 Language and Literacy
 - OR
 - HDEV 30 Creative Process in Children AND
 - ART 2 Two-Dimensional Design Foundations OR
 - ART 10 Art Appreciation
- *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 the following major requirements with grades of “C” or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth (CSU GE) pattern; or Intersegmental General Education Transfer Curriculum (IGETC).

REQUIRED COURSES:

	UNITS
HDEV 2 Principles and Practices of Early Childhood Education . . .	3
HDEV 3 Observation, Documentation and Assessment In ECE . . .	3
HDEV 4 Child, Family and Community	3
HDEV 5 Introduction to Curriculum	3
HDEV 7 Health, Safety and Nutrition	3
HDEV 9 Child and Adolescent Development.	3
HDEV 10 Practicum/Field Experience in Early Childhood Education	4.5
HDEV 25 Culture and Diversity in Early Childhood Education . . .	3
HDEV 38 Adult Supervision: Mentoring in ECE Settings	2
HDEV 40 Administration and Supervision of Early Childhood Programs	3
HDEV 41 Advanced Administration of ECE Programs	3

TOTAL UNITS REQUIRED: 33.5

CHILD 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 (HDEV 2, 4, 5, 9)
- 12 HDEV/ECE elective units
- 16 GE units
- 2 Adult Supervision units (HDEV 38)
- 6 Administration units (HDEV 40 and 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 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. (C-ID ECE 120) (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. (C-ID ECE 200) (CSU)

HDEV 4 CHILD, FAMILY AND COMMUNITY

Units: 3

Hours: 54 lecture

Examination of the developing child in a societal context focusing on the interrelationship of family, school and community. Emphasis on historical and socio-cultural factors and processes of socialization and identity development that show the importance of respectful, reciprocal relationships that support and empower families. (C-ID CDEV 110) (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. (C-ID ECE 130) (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. (C-ID ECE 220) (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. Designed as a foundation course for careers in early childhood and for those seeking a teaching credential. (C-ID CDEV 100) (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 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. (C-ID ECE 210) (CSU)

HDEV 11 INFANT AND TODDLER DEVELOPMENT

Units: 3

Hours: 54 lecture

A study of infants and toddlers from pre-conception to age three including physical, cognitive, language, social and emotional growth and development. Applies theoretical frameworks to interpret behavior and interactions between heredity and environment. Emphasizes the role of family and relationships in development. Recommended for Child Development, education and health career majors. (CSU)

HDEV 12 INFANT/TODDLER CARE AND EDUCATION

Units: 3

Prerequisite: Completion of HDEV 11 with grade of "C" or better

Hours: 90 (36 lecture, 54 laboratory)

Applies current theory and research to the care and education of infants and toddlers in group settings. Examines essential policies, principles and practices that lead to quality care and developmentally appropriate curriculum for children birth to 36 months. Laboratory component during the daytime for a total of 54 hours at a pre-approved infant/toddler site, located within Placer or Nevada County. (CSU)

HDEV 13 SCHOOL AGE CHILD

Units: 3

Advisory: Completion of HDEV 1 or 9 with grade of "C" or better

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 with grade of "C" or better

Advisory: Completion of HDEV 1 or 9 with grade of "C" or better

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 19 EXCEPTIONAL DEVELOPMENT: INCLUSION OF SPECIAL NEEDS CHILDREN

Units: 3

Prerequisite: Completion of HDEV 1 or 9 with grade of "C" or better

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 AND FAMILY

Also known as PSYC 110

Units: 3

Hours: 54 lecture

Study of the meaning and functions of intimacy, marriage and family. Consideration given to the nature of commitments, sexuality, alternative relationships, communication, conflict resolution, economics, parenting, crises and marital separation. 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. (C-ID ECE 230) (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 might include, but is not limited to, research papers, special subject area projects and research projects. See Independent Study page in catalog. (CSU)

HDEV 29 STORYTELLING AND PUPPETRY

Formerly known as HDEV 17 and 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 effective teaching strategies for encouraging children's artistic and overall creative development. (CSU)

HDEV 38 ADULT SUPERVISION: MENTORING IN ECE SETTINGS

Units: 2

Prerequisite: Completion of the following with grades of "C" or better: HDEV 1 or 9; and HDEV 2

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 or 9 with grade of "C" or better; completion of HDEV 2 with grade of "C" or better

Advisory: Completion of HDEV 3 and 5 with grades of "C" or better

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 41 ADVANCED ADMINISTRATION OF ECE PROGRAMS

Formerly known as HDEV 41A/41B/41C

Units: 3

Prerequisite: Completion of HDEV 40 with grade of "C" or better

Hours: 54 lecture

Advanced level of child care administration including legal and financial issues related to establishment and operation of early childhood education programs. Emphasis includes: compliance with relevant laws and regulation; developing sound fiscal and regulatory policies relative to the operation of different types of early childhood programs; personnel training, supervision and evaluation; staff development; networking within the community to promote participation and support between professionals in the field; and familiarity with current Early Childhood State Department of Education publications. (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 46 LANGUAGE AND LITERACY

Units: 3

Prerequisite: Completion of HDEV 2 with grade of "C" or better

Advisory: Completion of HDEV 1 with grade of "C" or better

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 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 with grade of "C" or better

Advisory: Completion of HDEV 1 with grade of "C" or better

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 61 NUTRITION THROUGHOUT THE LIFE CYCLE

Also known as NUTF 13

Units: 3

Advisory: Completion of NUTF 10 with grade of "C" or better

Hours: 54 lecture

Examination of nutritional requirements, concerns and interventions during several stages of the life cycle, from preconception to old age. Analysis of cultural, environmental, physical and economic factors affecting nutritional status. Practical application of adequate nutrition through dietary selection and promotion of health throughout each life cycle stage. (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 AND FAMILY

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 400 SELECTED TOPICS IN HUMAN DEVELOPMENT AND FAMILY

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)



HUMANITIES

LIBERAL ARTS

DEAN: Rebecca Bocchicchio

ASSOCIATE DEANS: Anne Fleischmann, Susan Lucyga

DIVISION OFFICE: W 107

FACULTY: J. Haproff, J. Keating, J. Terry

LIAISON COUNSELOR: 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. In all cases, students should consult with a counselor for more information on university admission and transfer requirements. Students must fulfill the following major requirements with grades of "C" or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth pattern; or Intersegmental General Education Transfer Curriculum (IGETC).

REQUIRED COURSES:

	UNITS
HUM 1 Introduction to Humanities I	3
HUM 2 Introduction to Humanities II.	3
HUM 3 Introduction to Asian Humanities	3

PLUS 12 UNITS FROM:

AAD 12 Visual Communication (also COMM 12)	3
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 History of Islamic Art	3
ART 10 Art Appreciation.	3
ART 11 History and Aesthetics of Photography (also PHOT 10) .	3
DRAMA 13 Introduction to Theater.	3
DRAMA 20 Play, Performance and Perception.	3
ENGL 1B Critical Thinking and Writing about Literature	3
ENGL 24 Introduction to Literary Criticism and Critical Concepts	3
ENGL 27 Literature by Women	3
ENGL 29 Introduction to Drama as Literature	3
ENGL 30A American Literature—Beginnings through Civil War . .	3
ENGL 30B American Literature—Civil War to the Present	3
ENGL 32 Introduction to Poetry	3
ENGL 33 Introduction to Shakespeare (The Drama).	3
ENGL 34 Introduction to the Novel.	3
ENGL 35 Introduction to the Short Story	3
ENGL 37 American Film Masterpieces	3
ENGL 38 International Film Masterpieces	3
ENGL 40 The Filmed Novel	3
ENGL 42 The Documentary Film.	3
ENGL 44 Introduction to Children's Literature (also HDEV 44) . .	3
ENGL 45 Introduction to Adolescent Literature.	3
ENGL 46A English Literature	3
ENGL 46B English Literature	3
ENGL 47A World Literature	3
ENGL 47B World Literature	3

ENGL 48 Literature of Science Fiction.	3
HIST 4A Western Civilization to 1715	3
HIST 4B Western Civilization since 1715	3
HUM 5 Classical Roots of the Contemporary Western World . . .	3
HUM 9 Introduction to Women, Gender and Religion (also WMST 3)	3
HUM 10 World Religions	3
HUM 15 Introduction to Mythology	3
HUM 17 Introduction to Atheism	3
HUM 20 Introduction to the Hebrew Bible	3
HUM 21 Introduction to the New Testament.	3
LGBT 1 Introduction to LGBT Studies/Queer Theory (also WMST 2)	3
LGBT 2 Queer (LGBTIQ) Film History	3
MUS 2 Music Appreciation	3
MUS 11 Introduction and History of Jazz	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
MUS 13 Introduction to Music: History of Rock and Roll	3
PHIL 2 Introduction to Philosophy: Ethics	3
PHIL 4 Introduction to Critical Thinking	3
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. In all cases, students should consult with a counselor for more information on university admission and transfer requirements. Students must fulfill the following major requirements with grades of "C" or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth pattern; or Intersegmental General Education Transfer Curriculum (IGETC).

REQUIRED COURSES:

	UNITS
HUM 1 Introduction to Humanities I	3
HUM 2 Introduction to Humanities II.	3
HUM 3 Introduction to Asian Humanities	3

PLUS 12 UNITS FROM:

ART 1D History of Asian Art	3
ART 1E History of Women in Art	3
ART 1F History of Islamic Art	3
ENGL 16 Introduction to LGBTIQ Literature	3
ENGL 27 Literature by Women	3
HIST 19A History of Traditional East Asia	3
HIST 19B History of Modern East Asia	3
HUM 5 Classical Roots of the Contemporary Western World	3
HUM 9 Introduction to Women, Gender and Religion (also WMST 3)	3
HUM 10 World Religions	3
HUM 15 Introduction to Mythology	3
HUM 17 Introduction to Atheism	3
LGBT 1 Introduction to LGBT Studies/Queer Theory (also WMST 2)	3
LGBT 2 Queer (LGBTIQ) Film History	3
PHIL 13 Introduction to Asian Philosophy	3
PHIL 15 Introduction to Philosophies of Self and Personhood	3
PHIL 27 Introduction to Philosophy of Women in Western Cultures	3
SSCI 10 Introduction to Ethnic Studies	3
SSCI 13 Dialogues in American Culture	3

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. In all cases, students should consult with a counselor for more information on university admission and transfer requirements. Students must fulfill the following major requirements with grades of "C" or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth pattern; or Intersegmental General Education Transfer Curriculum (IGETC).

REQUIRED COURSES:

	UNITS
HUM 1 Introduction to Humanities I	3
HUM 2 Introduction to Humanities II.	3
HUM 3 Introduction to Asian Humanities	3

PLUS 10-12 UNITS FROM:

ART 1F History of Islamic Art	3
HIST 19A History of Traditional East Asia	3
HIST 19B History of Modern East Asia	3
HUM 10 World Religions	3
JPN 1 Elementary Japanese—Level I	4
PHED 14 Tai Chi AND/OR	
PHED 66 Combative Self Defense	1-1.5
PHED 55 Fundamentals of Yoga	1-1.5
PHED 68 Introduction to Meditation	1-1.5
PHIL 13 Introduction to Asian Philosophy	3

TOTAL UNITS REQUIRED: 19-21

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 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 HEBREW BIBLE

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

Introduction to the history and culture of the New Testament period (First Century C.E.), methods of critical analysis of Biblical materials and literary forms and content of the New Testament. Emphasizes the impact of the New Testament on western 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 might include, but is not limited to, research papers, special subject area projects and research projects. 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 95 INTERNSHIP IN HUMANITIES

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)

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)



INTERDISCIPLINARY

SCIENCES AND MATHEMATICS

DEAN: Heather Roberts

ASSOCIATE DEAN: Michael Kane

DIVISION OFFICE: V 211

LIAISON COUNSELOR: T. Maddux

Interdisciplinary offerings 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 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. Emphasizes either natural history or art. (CSU)



ITALIAN

LIBERAL ARTS

DEAN: Rebecca Bocchicchio

ASSOCIATE DEANS: Anne Fleischmann, Susan Lucyga

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 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—LEVEL I

Units: 4

Hours: 72 lecture

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—LEVEL II

Units: 4

Prerequisite: Completion of ITAL 1 or two years of high school Italian with grade(s) of "C" or better

Hours: 72 lecture

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—LEVEL I

Units: 4

Prerequisite: Completion of ITAL 2 or three years of high school Italian with grade(s) of "C" or better

Hours: 72 lecture

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

LIBERAL ARTS

DEAN: Rebecca Bocchicchio

ASSOCIATE DEANS: Anne Fleischmann, Susan Lucyga

DIVISION OFFICE: W 107

LIAISON COUNSELORS: S. Muraki, 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 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.

JAPANESE COURSES »

JPN 1 ELEMENTARY JAPANESE—LEVEL I

Units: 4

Hours: 72 lecture

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 and Kanji characters. Corresponds to two years of high school study. (CSU, UC)

JPN 2 ELEMENTARY JAPANESE—LEVEL II

Units: 4

Prerequisite: Completion of JPN 1 or two years of high school Japanese with grade of "C" or better

Hours: 72 lecture

Continuation of JPN 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. See Independent Study page in catalog. (CSU, UC-with unit limitation)

JOURNALISM

(See Communication Studies)



LEARNING DISABILITIES

STUDENT SERVICES

DEAN: Sharon Adams

DIVISION OFFICE: Winstead Center L-102

FACULTY: G. Joy

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. Procedures and services offered follow the criteria mandated by the California Community College Chancellor's Office Learning Disabilities Eligibility and Service Model. Students must complete an application for learning disability services and be approved for enrollment by the instructor. Students are asked to provide relevant documentation related to eligibility for services. (pass/no pass grading) (not degree applicable)



LESBIAN, GAY, BISEXUAL AND TRANSGENDER STUDIES

LIBERAL ARTS

DEAN: Rebecca Bocchicchio
ASSOCIATE DEANS: Anne Fleischmann, Susan Lucyga
DIVISION OFFICE: W 107
FACULTY: J. Terry
LIAISON COUNSELORS: M. Moon, D. Quadros

Lesbian, Gay, Bisexual and Transgender Studies is an interdisciplinary program. Courses emphasize the history and culture of Lesbian, Gay, Bisexual and Transgendered persons and especially the way that sexual orientation/gender identity and expression intersect with ethnic and racial, socioeconomic, creedal and political identities.

LESBIAN, GAY, BISEXUAL AND TRANSGENDER STUDIES

A.A. DEGREE

LGBT Studies is an interdisciplinary and multicultural major that emphasizes the history and culture of Lesbian, Gay, Bisexual and Transgendered persons. The degree acquaints students with the way that sexual orientation/gender identity and expression intersect with ethnic and racial, socioeconomic, creedal and political identities. The major provides preparation for upper division course work in LGBT Studies, Women's Studies and Gender Studies at a four-year university. Students will be prepared for a variety of social service careers and for working in education. Most employers today welcome employees with expertise in diversity, including knowledge and experience with LGBT issues. In all cases, students should consult with a counselor for more information on university admission and transfer requirements.

Students must fulfill the following major requirements with grades of "C" or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth (CSU GE) pattern; or Intersegmental General Education Transfer Curriculum (IGETC).

REQUIRED COURSES:

	UNITS
LGBT 1 Introduction to LGBT Studies/Queer Theory (also WMST 2)	3
LGBT 2 Queer (LGBTIQ) Film History	3

PLUS 9 UNITS FROM:

HIST 51 World History since 1500.	3
PSYC 100 General Principles of Psychology.	3
SOC 1 Introduction to Sociology.	3
WMST 1 Introduction to Women's Studies.	3

PLUS 3 UNITS FROM:

ANTH 27 Anthropology of Sex, Gender and Sexuality	3
PSYC 130 Human Sexuality	3
SOC 3 Race, Ethnicity and Inequality	3
SOC 27 Sociology of Gender	3
SSCI 13 Dialogues in American Culture	3

TOTAL UNITS REQUIRED: 18

LESBIAN, GAY, BISEXUAL AND TRANSGENDER STUDIES COURSES »

LGBT 1 INTRODUCTION TO LGBT STUDIES/QUEER THEORY

Formerly known as HUM 27

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 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)

LGBT 2 QUEER (LGBTIQ) FILM HISTORY

Formerly known as HUM 26

Units: 3

Hours: 72 (36 lecture, 36 activity)

Historical representations of queer sexualities in mainstream commercial cinema, as well as underground and independent films, from the silent era to the present. Examines theoretical approaches to the study of queer cinema, the way social attitudes shape cultural representation and the relationship between audience interpretation and filmmakers' intentions. (CSU, UC)

LGBT 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. See Independent Study page in catalog. (CSU, UC-with unit limitation)

LGBT 95 INTERNSHIP IN LGBT STUDIES

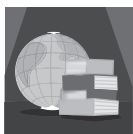
Units: 0.5-4

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)

LGBT 300 SELECTED TOPICS IN LGBT 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, UC-with unit limitation)



LIBERAL ARTS

LIBERAL ARTS

DEAN: Rebecca Bocchicchio

ASSOCIATE DEANS: Anne Fleischmann, Susan Lucyga

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 more information on university admission and transfer requirements. Students must fulfill the following major requirements with grades of "C" or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth pattern; or Intersegmental General Education Transfer Curriculum (IGETC).

REQUIRED COURSES

9 UNITS FROM THE ARTS:

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 History of Islamic Art	3
ART 1G History of the Arts of Africa, The Americas and Oceania.	3
ART 10 Art Appreciation	3
ART 11 History and Aesthetics of Photography (also PHOT 10) .	3
DRAMA 13 Introduction to Theater	3
ENGL 24 Introduction to Literary Criticism and Critical Concepts	3
ENGL 27 Literature by Women	3
ENGL 29 Introduction to Drama as Literature	3
ENGL 30A American Literature—Beginnings through Civil War . .	3
ENGL 30B American Literature—Civil War to the Present	3
ENGL 32 Introduction to Poetry	3
ENGL 33 Introduction to Shakespeare (The Drama).	3
ENGL 34 Introduction to the Novel.	3
ENGL 35 Introduction to the Short Story	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 44 Introduction to Children’s Literature (also HDEV 44) . .	3
ENGL 45 Introduction to Adolescent Literature.	3
ENGL 46A English Literature	3
ENGL 46B English Literature	3
ENGL 47A World Literature	3
ENGL 47B World Literature	3
ENGL 48 Literature of Science Fiction.	3
HUM 1 Introduction to Humanities I	3
HUM 2 Introduction to Humanities II	3
MUS 2 Music Appreciation	3
MUS 11 Introduction and History of Jazz	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
MUS 13 Introduction to Music: History of Rock and Roll	3

PLUS 9-12 UNITS FROM CULTURAL STUDIES:

ANTH 2 Cultural Anthropology	3
ANTH 4 Native Peoples of North America	3
ANTH 7 Native Peoples of California	3
ANTH 9 Magic, Witchcraft, Ritual, Myth and Religion	3
ANTH 27 Anthropology of Sex, Gender and Sexuality	3
COMM 7 Intercultural Communication	3
COMM 10 Survey of Communication Studies	3
DFST 3 American Sign Language III	4
DFST 4 American Sign Language IV	4
FREN 3 Intermediate French—Level I	4
FREN 4 Intermediate French—Level II.	4
GEOG 2 Cultural Geography	3
GEOG 3 Geography of California.	3
GEOG 5 World Regional Geography	3

HIST 17A History of the United States to 1877	3
HIST 17B History of the United States since 1865	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 23 Chicano/Mexican American History	3
HIST 24 Russian History—10th Century to Present	3
HIST 27 Women in American History	3
HIST 50 World History to 1500	3
HIST 51 World History since 1500.	3
HDEV 25 Culture and Diversity in Early Childhood Education . .	3
HUM 3 Introduction to Asian Humanities	3
HUM 10 World Religions	3
ITAL 3 Intermediate Italian—Level I	4
JPN 1 Elementary Japanese—Level I	4
JPN 2 Elementary Japanese—Level II	4
LGBT 1 Introduction to LGBT Studies/Queer Theory (also WMST 2)	3
PHIL 13 Introduction to Asian Philosophy	3
PHIL 15 Introduction to Philosophies of Self and Personhood . .	3
PHIL 27 Introduction to Philosophy of Women in Western Cultures	3
POLS 7 Politics of the Developing World—Third World Politics . .	3
POLS 9 Politics of the Middle East	3
POLS 27 Women and Politics in a Global Society	3
PSYC 103 Social Psychology	3
PSYC 127 Psychology of Women	3
SOC 3 Race, Ethnicity and Inequality	3
SSCI 10 Introduction to Ethnic Studies	3
SSCI 13 Dialogues in American Culture	3
SSCI 20 African American Culture and Experience	3
SSCI 35 Immigrants and Refugees in America: The European Experience.	3
SSCI 50 Ethnic Images in Film.	3
SPAN 3 Intermediate Spanish—Level I	4
SPAN 4 Intermediate Spanish—Level II.	4
WMST 1 Introduction to Women’s Studies.	3
TOTAL UNITS REQUIRED: 18-21	

LIBERAL STUDIES

(See Education)



LIBRARY SCIENCE

LIBRARY/LEARNING RESOURCE CENTER

DEAN: Sabrina Pape
 DIVISION OFFICE: LRC 311
 FACULTY: D. Campbell, S. Davenport, S. Montgomery, P. Saulsbury, C. Sixt
 AREA OFFICE: Library/Learning Resource Center—312
 LIAISON COUNSELOR: C. Morris

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 skills certificate is designed to provide career technical skills; it is not equivalent to an associate degree.

REQUIRED COURSES:	UNITS
LIBS 10A Information Literacy and Lifelong Learning	2
LIBS 10B Library Research Process	2
LIBS 20 Library Services and Practices	3
LIBS 25 Technical Services—Media and Distance Learning Technologies.	3
LIBS 30 Technical Services—Cataloging	3
LIBS 40 Libraries Today: Issues, Trends, Directions	2
LIBS 95 Internship in Library Science	2
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 with grade of "C" or better

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 LIBRARY SERVICES AND PRACTICES

Units: 3

Advisory: Familiarity with library resources or completion of LIBS 10A with grade of "C" or better

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. See Independent Study page in catalog. (CSU)

LIBS 30 TECHNICAL SERVICES—CATALOGING

Units: 3

Hours: 54 lecture

A practical introduction to basic rules and practices of cataloging and classification of books and non-book materials. Includes descriptive cataloging using current ALA standards, Library of Congress subject access and Dewey 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. Designed for students in the Library Media Technician program or those with an interest in libraries. (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 AND MATHEMATICS

DEAN: Heather Roberts

ASSOCIATE DEAN: Michael Kane

DIVISION OFFICE: V 211

FACULTY: J. Anderson, D. Balaguy, M. Barron, A. Bazos, C. Buchwald, V. Day, B. Eryasian, R. Gottwig, L. Harrison Benavidez, D. Hill, K. Johnson, J. Kesler, R. Kyler, K. Lucero, M. Morgan, C. Myers, H. Nehrebecki, S. Newsome, M. Pattengale, J. Rafael, R. Siemers, D. Smith, J. Sullivan, P. Turner, I. Wu
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 FOR TRANSFER AS-T DEGREE

The Associate in Science in Mathematics for Transfer (AS-T) degree includes curriculum focusing on the mastery of calculus, linear algebra and differential equations. Students will master these concepts using algebraic and visual models in pure and applied contexts and be able to communicate mathematically.

The Associate in Science in Mathematics for Transfer degree prepares students to transfer into the CSU system to complete a bachelor's degree in Mathematics or a major deemed similar by a CSU campus. Students earning an associate degree for transfer and meeting the CSU minimum transfer admission requirements are guaranteed admission with junior standing to the CSU system, but not to a particular campus or major. Upon transfer, students will be required to complete no more than 60 additional prescribed units to earn a bachelor's degree.

To earn the Associate in Science in Mathematics for Transfer degree, students must complete 60 CSU-transferable semester units with a minimum grade point average of 2.0, including both of the following:

- completion of all courses required for the major with grades of "C" or better; and
- completion of the California State University General Education Breadth (CSU GE) pattern or the Intersegmental General Education Transfer Curriculum (IGETC) pattern.

It is highly recommended that, prior to transferring, students complete courses that satisfy the CSU United States History, Constitution

and American Ideals graduation requirement. In all cases, students should consult with a counselor for more information on university admission and transfer requirements.

REQUIRED COURSES:

	UNITS
MATH 30 Analytical Geometry and Calculus I	4
MATH 31 Analytical Geometry and Calculus II.	4
MATH 32 Analytical Geometry and Calculus III	4
MATH 33 Differential Equations and Linear Algebra	6

TOTAL UNITS REQUIRED: 18

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. In all cases, students should consult with a counselor for more information on university admission and transfer requirements. Students must fulfill the following major requirements with grades of "C" or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth pattern; or Intersegmental General Education Transfer Curriculum (IGETC).

REQUIRED COURSES:

	UNITS
MATH 30 Analytical Geometry and Calculus I	4
MATH 31 Analytical Geometry and Calculus II.	4
MATH 32 Analytical Geometry and Calculus III	4
MATH 33 Differential Equations and Linear Algebra	6

PLUS 3-5 UNITS FROM:

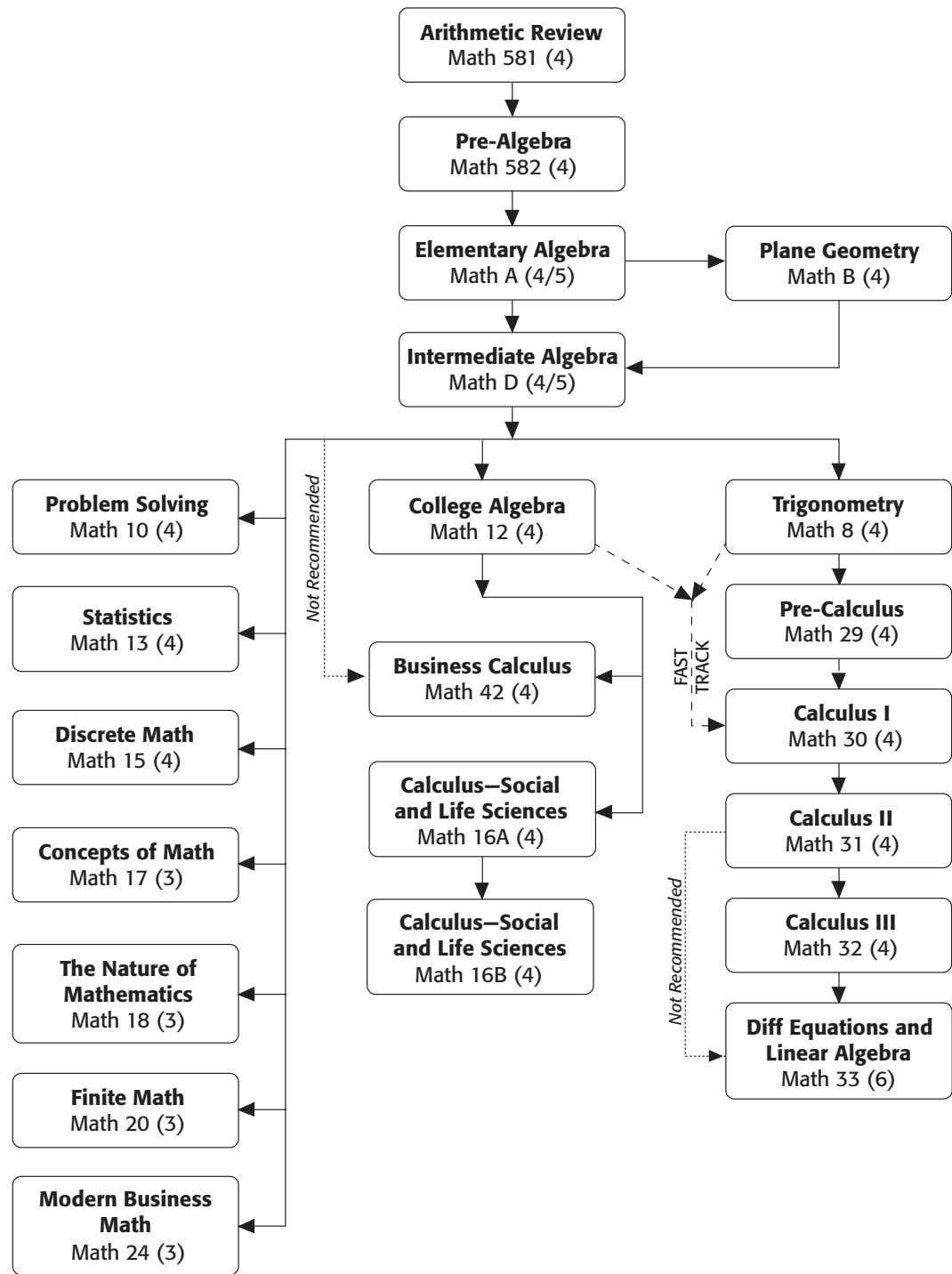
CSCI 12 Programming Concepts and Methodology I	3
CSCI 27 Visual Basic .NET Programming I	3
CSCI 46 System Programming with C.	3
MATH 10 Problem Solving	4
MATH 13 Elementary Statistics	4
MATH 15 Discrete Mathematics	4
MATH 17 Concepts of Mathematics	3
MATH 18 The Nature of Mathematics.	3
PHYS 205 Principles of Physics: Mechanics AND	
PHYS 205L Principles of Physics Laboratory: Mechanics	5

TOTAL UNITS REQUIRED: 21-23

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.

MATHEMATICAL COURSE PROGRESSION



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 assessment process.

Contact the Assessment-Placement Center for further information.

MATHEMATICS COURSES »

MATH A ELEMENTARY ALGEBRA

Units: 4-5

Prerequisite: Completion of MATH 582 with grade of "C" or better or placement by 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 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 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

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 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 are enhanced. 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 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 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 and Student's t distributions; confidence intervals and hypothesis testing for one and two population means and proportions; chi-square tests for goodness-of-fit and independence; linear regression and correlation; and one-way analysis of variance (ANOVA). (CSU, UC-with unit limitation)

MATH 15 DISCRETE MATHEMATICS

Units: 4

Prerequisite: Completion of MATH 30 with 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: Completion of MATH 12 with grade of "C" or better, or placement by matriculation assessment process

Advisory: Not recommended for students with grade of "C" or better in MATH 30

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 30 with grade of "C" or better

Advisory: Completion of MATH 8 with grade of "C" or better

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: Three years of high school mathematics which includes two years of algebra and one year of 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 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 24 MODERN BUSINESS MATHEMATICS

Units: 3

Prerequisite: Two years of high school algebra or MATH D with grade(s) of "C" or better, or placement by matriculation assessment process

Hours: 54 lecture

Applications of mathematics in economics and business contexts. Topics include tables and graphs, functions, finance (interest and exponential models), rates of change including applications and optimization and linear programming. (CSU)

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. 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 I

Units: 4

Prerequisite: Completion of MATH 8 and either MATH 12 or 29 with grades of "C" or better, or placement by matriculation assessment process

Hours: 72 lecture

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 II

Units: 4

Prerequisite: Completion of MATH 30 with grade of "C" or better

Hours: 72 lecture

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 III

Units: 4

Prerequisite: Completion of MATH 31 with 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. (C-ID MATH 230) (CSU, UC)

MATH 33 DIFFERENTIAL EQUATIONS AND LINEAR ALGEBRA

Units: 6

Prerequisite: Completion of MATH 31 with 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)

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 recommended for students 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

Prerequisite: Placement by matriculation assessment process

Hours: 108 (54 lecture; 54 laboratory which may be scheduled TBA)

Basic review of fundamental arithmetic operations with whole numbers, decimals, fractions, ratio and proportion and percentages. Not open to students who have completed MATH 581S. (not degree applicable)

MATH 581S SUMMER BRIDGE ARITHMETIC REVIEW

Units: 3

Prerequisite: Placement by matriculation assessment process

Hours: 54 lecture

Summer Bridge Program with accelerated curriculum. Basic review of fundamental arithmetic operations with whole numbers, decimals, fractions, ratio and proportion and percentages. Not open to students who have completed MATH 581. (not degree applicable)

MATH 582 PRE-ALGEBRA

Units: 4

Prerequisite: Completion of MATH 581 or 581S with grade of "C" or better or placement by matriculation assessment process

Hours: 108 (54 lecture; 54 laboratory which may be scheduled TBA)

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)

MATH 584 MATH SUCCESS-OVERCOMING MATH ANXIETY

Units: 1

Hours: 18 lecture

Designed to assist students to recognize common fears and misconceptions of mathematics and develop personal strategies to overcome math and test anxiety. Specific study skills and strategies are discussed. Individual math learning styles are analyzed. (not degree applicable)



MECHATRONICS

(Formerly Computer Integrated Electronics)

BUSINESS AND TECHNOLOGY

DEAN: Sonja Lolland
ASSOCIATE DEAN: Darlene Jackson
DIVISION OFFICE: B 3
FACULTY: S. Gillette, M. Halbern, T. Osladil
LIAISON COUNSELORS: C. Axton, Rebecca Ortega, D. Quadros

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 electro-mechanical 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: <http://www.realskillsrealjobs.com>.

MECHATRONICS TECHNOLOGY A.A. OR A.S. DEGREE AND/OR CERTIFICATE OF ACHIEVEMENT

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. For the degree, students must fulfill the following major requirements with grades of "C" or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth pattern; or Intersegmental General Education Transfer Curriculum (IGETC). A certificate is designed to provide career technical skills; it is not equivalent to an associate 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 associate 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. 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

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

Prerequisite: Completion of MECH 10 and MECH 14 with grades of "C" or better

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: Rebecca Bocchicchio
 ASSOCIATE DEANS: Anne Fleischmann, Susan Lucyga
 DIVISION OFFICE: W 107
 FACULTY: S. Cunningham, G. McLaughlin, J. Stave Viemeister
 LIAISON COUNSELOR: E. Farrelly

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. In all cases, students should consult with a counselor for more information on university admission and transfer requirements. Students must fulfill the following major requirements with grades of "C" or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth pattern; or Intersegmental General Education Transfer Curriculum (IGETC).

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 UNITS FROM:

MUS 40A Beginning Piano I	2
MUS 40B Beginning Piano II	2
MUS 40C Intermediate Piano I	2
MUS 40D Intermediate Piano II	2

PLUS 4 UNITS FROM:

MUS 42 Chamber Singers	2-4
MUS 46 Jazz Ensemble	2-4
MUS 47 Vocal Jazz Ensemble	2-4
MUS 48 Concert Choir	2-4
MUS 50 Wind Ensemble	2-4
MUS 54 Symphonic Band	2-4

TOTAL UNITS REQUIRED: 30

MUSIC COURSES »

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 with grade of "C" or better
Advisory: Completion of MUS 40B with grade of "C" or better, or equivalent piano skill

Hours: 54 (18 lecture, 36 activity)

Continuation of MUS 3B through study of the aspects of aural recognition. 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 with grade of "C" or better
Advisory: Completion of MUS 40B with grade of "C" or better, 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 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
Advisory: Completion of MUS 40C with grade of "C" or better or equivalent piano skills; completion with grade of "C" or better or concurrent enrollment in MUS 4B

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. No prior musical training necessary. 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

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 are offered. (CSU)

MUS 15 AUDIO RECORDING

Units: 3

Prerequisite: Completion of MUS 14 with grade of "C" or better

Advisory: Completion of MECH 10 with grade of "C" or better

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 required. (CSU)

MUS 25 INTRODUCTION TO MUSIC BUSINESS

Units: 3

Advisory: Completion of BUS 20 with grade of "C" or better

Hours: 54 lecture

Focus on the business side of the music industry including marketing, publishing, copyrights and licensing and 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. See Independent Study page in catalog. (CSU, UC-with unit limitation)

MUS 39A BEGINNING VOICE

Formerly known as MUS 39

Units: 2

Hours: 54 (18 lecture, 36 activity)

Introductory study of efficient vocal production and performance. Beginning exercises for breath management, extending the vocal range, increasing vocal resonance and volume and singing in an expressive manner introduced. Vocal exercises and solos are performed to demonstrate these skills. (CSU, UC)

MUS 39B INTERMEDIATE VOICE

Units: 2

Prerequisite: Completion of MUS 39A with grade of "C" or better

Hours: 54 (18 lecture, 36 activity)

In-depth study of specific elements of efficient vocal technique and performance. Includes vowel purity, belt singing and managing stage fright. Vocal exercises and songs from various music styles are performed, including selections made by students. (CSU, UC)

MUS 39C ADVANCED VOICE I

Units: 2

Prerequisite: Completion of MUS 39B with grade of "C" or better

Hours: 54 (18 lecture, 36 activity)

In-depth study of specific elements of efficient vocal technique and performance. Includes breath management in relation to posture, expressive singing via physical movement, unifying the register and range extension, resonance and vocal registers, expressive singing, stage presence and the International Phonetic Alphabet (IPA) to sing Italian songs. Vocal exercises and songs from various music styles are performed including selections made by students. (CSU, UC)

MUS 39D ADVANCED VOICE II

Units: 2

Prerequisite: Completion of MUS 39C with grade of "C" or better

Hours: 54 (18 lecture, 36 activity)

In-depth study of specific elements of efficient vocal technique and performance. Includes breath management using an efficient onset and release, managing the performance, resonance balancing using consonants and song analysis to prepare a vocal piece for performance. (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. (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 more advanced materials. Developing skills in harmonizing a melody, playing scales, sight-reading, chord inversions and repertoire. (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. (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. (CSU, UC)

MUS 42 CHAMBER SINGERS

Units: 2

Hours: 54 (36 lecture, 18 laboratory)

Explores the literature and performance practices of small vocal ensembles from the Renaissance to the present. Audition for vocal placement required. Public performances, festivals and field trips required. May be taken four times for credit. (CSU, UC)

MUS 46 JAZZ ENSEMBLE

Units: 2

Advisory: Three to four years experience on instrument or equivalent

Hours: 54 (18 lecture, 36 activity)

Rehearsal and performance of literature written for instrumental jazz ensemble, with emphasis on current musical trends. Study of improvisation. Consideration of career possibilities in the field. Public performances 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 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)



NATURAL SCIENCE

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 with grade of "C" or better or equivalent with permission of instructor

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 with grade of "C" or better or equivalent with permission of instructor

Hours: 36 (18 lecture, 18 activity)

Learning chromatics, chord structure in closed positions, 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 with grade of "C" or better or equivalent with permission of instructor

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 instruments. (CSU, UC)

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 810 SELECTED TOPICS IN MUSIC

Units: 0

Hours: 8 to 54 lecture as scheduled

Course designed for older adults. 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)

SCIENCES AND 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. In all cases, students should consult with a counselor for more information on university admission and transfer requirements. Students must fulfill the following major requirements with grades of "C" or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth pattern; or Intersegmental General Education Transfer Curriculum (IGETC).

REQUIRED COURSES

18 UNITS FROM:

AGRI 198 Food, Society and 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 7 Life in the Universe	3
ASTR 10 Elementary Astronomy	3
ASTR 11 Observational Astronomy	1
ASTR 14 Astrophotography and Imaging	1
ASTR 25 Frontiers in Astronomy	3
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 Human Anatomy I	2.5
BIOL 7B Human Anatomy II	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 Introduction to Plant Science (also AGRI 156)	4
BIOL 22 Introduction to Botany	4
BIOL 24 Wildland Trees and Shrubs (Dendrology)	4
BIOL 33 Introduction to Zoology	4
BIOL 55 General Human Anatomy and Physiology	4

BIOL 56 Biology: A Human Perspective	3
BIOL 56L Biology: A Human Perspective (Laboratory)	1
CHEM 1A General Chemistry I	5
CHEM 1B General Chemistry II	5
CHEM 2A Introduction to Chemistry I	5
CHEM 2B Introduction to Chemistry II	5
CHEM 3A General Chemistry I—Part 1	3
CHEM 3B General Chemistry I—Part 2	3
CHEM 5 Chemistry—Quantitative Analysis	4
CHEM 12A Organic Chemistry I	5
CHEM 12B Organic Chemistry II	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 and 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 1 The Environment and the Human Impact	3
ESS 10 Conservation of Natural Resources	3
GEOG 1 Physical Geography	3
GEOG 1L Physical Geography Laboratory	1
GEOG 4 Weather and Climate	3
MATH 8 Trigonometry	4
MATH 12 College Algebra	4
MATH 13 Elementary Statistics	4
MATH 16A Calculus for Social and Life Sciences	4
MATH 16B Calculus for Social and Life Sciences	4
MATH 29 Pre-Calculus Mathematics	4
MATH 30 Analytical Geometry and Calculus I	4
MATH 31 Analytical Geometry and Calculus II	4
MATH 32 Analytical Geometry and Calculus III	4
MATH 33 Differential Equations and Linear Algebra	6
MATH 42 Business Calculus	4
PHYS 10 Basic Concepts in Physics	3
PHYS 11 Physical Science Laboratory	1
PHYS 105 General Physics I AND	
PHYS 105L General Physics I Laboratory	5
PHYS 110 General Physics II AND	
PHYS 110L General Physics II Laboratory	4
PHYS 205 Principles of Physics: Mechanics AND	
PHYS 205L Principles of Physics Laboratory: Mechanics	5
PHYS 210 Principles of Physics: Electricity and Magnetism AND	
PHYS 210L Principles of Physics Laboratory: Electricity and Magnetism	4
PHYS 215 Principles of Physics: Heat, Waves and Modern Physics AND	
PHYS 215L Principles of Physics Laboratory: Heat, Waves and Modern Physics	4
PSYC 140 Introduction to Biopsychology	3
PSYC 140L Biopsychology Laboratory	1

TOTAL UNITS REQUIRED: 18



NURSING

SCIENCES AND MATHEMATICS

DEAN: Heather Roberts

DIVISION OFFICE: V 211

ASSOCIATE DEAN: Nancy Schwab

AREA OFFICE: RN1 100, (916) 660-8300

FACULTY: S. Bateson, M. Feldscher, D. Hylton, L. Lind, J.

Matson, S. Privett-Pokorney, J.K. Williams

LIAISON COUNSELOR: T. Maddux

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

The Nursing Assistant courses are designed to prepare students for employment and direct patient care in long term care facilities. There are no degree patterns or transfer majors in this area. Students desiring eligibility for certification must maintain grades of "C" or better in Nursing Assistant courses.

A physical exam and proof of freedom from common communicable diseases by immunization and/or serological testing is required (at the student's expense) prior to the patient care experience as mandated by the state.

Drug testing and background screening are required. Students must be fingerprinted and submit a Declaration of Conviction/No Conviction form for the Department of Health Services prior to entrance to clinical facility.

Students must obtain an approved uniform and required patient care equipment, obtain Basic Life Support certificate from the American Heart Association designated for Healthcare Providers and be responsible for transportation to and from clinical facilities.

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 are 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. Clinical practice may occur days, evenings, nights and weekends and is assigned by nursing faculty.

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 training certification 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. Completion of the Test of Essential Academic Skills with a cumulative score of 67% or higher is required.

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 ADMISSION REQUIREMENTS:

All application packets are evaluated for completeness and applicant admission eligibility. Application packets that are incomplete are not considered for admission. A complete application packet consists of the following:

- completed application signed by the applicant;
- official transcripts for all colleges (including Sierra College) referenced in the application, including those documenting fulfillment of prerequisite courses;
- official high school transcripts if using high school mathematics courses to meet the mathematics prerequisite;
- official course descriptions for all prerequisite courses taken outside of Sierra College. Official course descriptions must match the year and semester the course was completed as documented on the transcript;
- for veterans, a copy of DD Form 214 Certificate of Release or Discharge from Active Duty;
- current and active e-mail address.

The qualifying score using the Chancellor's Predictor of Success formula is 84% or higher. The nursing department complies with all academic regulations and requirements.

PROGRAM PREREQUISITES:

Completion of the following courses with grades of "C" or better:

- * BIOL 4 or 8A/8B Microbiology **
- * BIOL 5 or 7A/7B Human Anatomy **
- * BIOL 6 Human Physiology **
- * ENGL 1A Introduction to Composition
- * HDEV 1 Human Development
- * NUTF 10 Principles of Nutrition **
- * PSYC 100 General Principles of Psychology
- * Demonstrated reading proficiency by one of the following: ENGL 1B, 1C, 11, 50, N; ESL 30C, 30R; or PHIL 4 with grade of "C" or better; or eligibility for ENGL 11 based on Course Placement and eligibility results; or bachelor's degree or higher from a regionally accredited institution
- * One of the following mathematics courses with grade of "C" or better: MATH A, D, 12, 16A, 16B, 24, 29, 30, 31, 42, OR two semesters of high school algebra or higher
- * Prerequisites required before entry into the Registered Nursing Program.
- ** Courses in nutrition, microbiology, anatomy and physiology must be completed within seven years of entrance into the Registered Nursing Program.

PROGRAM COREQUISITES:

These courses must be completed before the student enters the last semester of the nursing program, with grades of "C" or better:

- 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 requisite duties without restriction.

ADVANCED PLACEMENT POLICY FOR ASSOCIATE DEGREE NURSING PROGRAM:

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 associate degree requirements must be met. Admission of any student eligible for advanced placement in the program following an academic evaluation is on a space available basis. Students re-entering the program receive priority. Students may obtain further information regarding program placement policies from the Sierra College website.

30-UNIT LVN OPTION

The 30-unit LVN option plan is offered on a space available basis for LVNs 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 23 and 24 in sequence. Those who complete this option do not graduate or receive a degree.

UPWARD MOBILITY LVN TO RN OPTION:

LVNs wishing to obtain licensure as a Registered Nurse through the upward mobility option must meet the following criteria to be considered for admission:

- minimum of 6 months full-time experience providing direct patient care in the acute care or skilled nursing care settings within 2 years prior to application submission;
- active, unrestricted California LVN license;
- meet the program prerequisite and admission requirements as well as the above mentioned clinical experience;
- upon admission, the student must complete the NRSR 23 and 24 sequence and the remaining required program and 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 on a space available basis. Readiness/Assessment testing is required.

UPWARD MOBILITY ADMISSION REQUIREMENTS:

Please see the Registered Nursing Admission Requirements.

REGISTERED NURSING A.A. OR A.S. DEGREE

Students must fulfill the nursing program requirements with grades of “C” or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth pattern; or Intersegmental General Education Transfer Curriculum (IGETC).

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.

Students who have baccalaureate or higher degrees are only required to fulfill the nursing program requirements and registered nursing courses, to be awarded an associate degree.

Students who complete the nursing program requirements and registered nursing courses without completing all of the associate degree requirements may take the Licensure Examination as NON-GRADUATES, but these students are not graduates of the program and do not receive degrees.

BOARD OF REGISTERED NURSING LICENSURE REQUIREMENTS
Upon applying to the California Board of Registered Nursing for examination and licensure, students must be fingerprinted and submit documentation related to any received conviction; licensure may be denied.

In accordance with Regulation 480 of the State Board of Registered Nursing, a person convicted of any offense, other than a minor traffic violation, may not qualify to be licensed as a registered nurse. Questions regarding this regulation may be addressed to the California State Board of Registered Nursing.

NURSING PROGRAM REQUIREMENTS: UNITS

BIOL 4 Microbiology OR	
BIOL 8A AND 8B Microbiology	5
BIOL 5 Human Anatomy OR	
BIOL 7A Human Anatomy I AND	
BIOL 7B Human Anatomy II	4-5
BIOL 6 Human Physiology.	5
COMM 1 Fundamentals of Public Speaking.	3
ENGL 1A Introduction to Composition	3
HDEV 1 Human Development.	3
MATH A Elementary Algebra OR	
MATH D Intermediate Algebra OR	
MATH 12 College Algebra OR	
MATH 16A Calculus for Social and Life Sciences OR	
MATH 16B Calculus for Social and Life Sciences OR	
MATH 24 Modern Business Mathematics OR	
MATH 29 Pre-Calculus Mathematics OR	
MATH 30 Analytical Geometry and Calculus I OR	
MATH 31 Analytical Geometry and Calculus II OR	
MATH 42 Business Calculus OR	
Two semesters of high school algebra or higher.	0-5
NUTF 10 Principles of Nutrition.	3
PSYC 100 General Principles of Psychology.	3
SOC 1 Introduction to Sociology OR	
ANTH 2 Cultural Anthropology	3

REGISTERED NURSING COURSES:

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

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.

TOTAL UNITS REQUIRED: 76-82

NURSING, REGISTERED COURSES »

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 17 HIGH-RISK PEDIATRIC NURSING

Units: 0.5

Prerequisite: Enrolled as LVN to RN Upward Mobility student

Hours: 9 lecture

Provides the LVN Upward Mobility student with the content/concepts for the management of nursing care for the child with complex nursing needs, such as a high-risk medical condition and chronic or end-of-life care. The content rounds out the basic pediatric nursing content the student received in the vocational nursing program and meets BRN curriculum requirements. (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 100, 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 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 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 100, 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 medical-surgical health problems and learn to apply the nursing process for clients experiencing common mental health issues. Focus is on the role of the registered nurse in therapeutic communication, health teaching, leadership, management and team work. 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 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. During the first ten weeks, clinical experience takes place in the medical-surgical and maternal newborn settings under the direct supervision of the faculty. The final six weeks encompass the completion of a pre-licensure preceptorship with a registered nurse in the medical-surgical clinical setting. (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)



NUTRITION AND FOOD SCIENCE

SCIENCES AND MATHEMATICS

DEAN: Heather Roberts
 ASSOCIATE DEAN: Michael Kane
 DIVISION OFFICE: V 211
 FACULTY: S. Klenner, 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 OF ACHIEVEMENT

This certificate program provides a comprehensive understanding of the relationships between food, physical fitness and health. Students will gain the necessary skills and knowledge for entry-level employment in health clubs and recreation centers. The certificate curriculum prepares students for the American Council on Exercise Personal Trainer Certification Exam, allowing students greater employment opportunities as personal trainers, group fitness instructors and advanced fitness specialists. A certificate is designed to provide career technical skills; it is not equivalent to an associate degree.

REQUIRED COURSES:

	UNITS
NUTF 5 Food Preparation for Nutrition and Life Fitness OR	
BUS 120 Introduction to Marketing	3
NUTF 10 Principles of Nutrition.	3
NUTF 14 Nutrition for Physical Performance	3
PHED 3A Basic Aerobic Training with Fitness Equipment.	1.5
PHED 5A Weight Training.....	1.5
PHED 32 ACE Personal Trainer Preparation.....	3
PHED 83 Physiology of Fitness	3
PHED 85 Techniques of Fitness Instruction	3

TOTAL UNITS REQUIRED: 21

NUTRITION AND FOOD SCIENCE COURSES »

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 and analysis and evaluation of food choices. Examination of caloric and nutrient value of selected recipes based on health and fitness needs of individuals. (CSU)

NUTF 10 PRINCIPLES OF 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 throughout the lifespan. Recommended for students interested in the scientific approach to the study of nutrition and its role in disease prevention. (CSU, UC)

NUTF 13 NUTRITION THROUGHOUT THE LIFE CYCLE

Also known as HDEV 61
Units: 3
Advisory: Completion of NUTF 10 with grade of "C" or better
Hours: 54 lecture

Examination of nutritional requirements, concerns and interventions during several stages of the life cycle, from preconception to old age. Analysis of cultural, environmental, physical and economic factors affecting nutritional status. Practical application of adequate nutrition through dietary selection and promotion of health throughout each life cycle stage. (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. 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: Sharon Adams

DIVISION OFFICE: Winstead Center L-102

FACULTY: G. Joy

AREA OFFICE: MT-8

LIAISON COUNSELORS: S. Bramlett, M. Kwoka

The Perceptual Training department offerings are designed primarily for Learning Disabled students. The emphasis is placed on perceptual development through individualized programs.

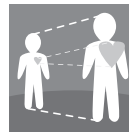
PERCEPTUAL TRAINING COURSES »

PRCP 601 VISUAL PERCEPTUAL SKILLS

Units: 0.5-1

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. Students must complete a Vision Screening administered by a Learning Disabilities Specialist and be approved for enrollment by the instructor. (pass/no pass grading) (not degree applicable)



PERSONAL DEVELOPMENT

STUDENT SERVICES

DEAN: Sharon Adams

DIVISION OFFICE: Winstead Center L-102

FACULTY: C. Axton, E. Farrelly, R. Flores, T. Haenny, J. Hurst-Crabb, M. Kwoka, S. Le, T. Maddux, N. Martinis, C. Morris, P. Neal, B. Oliver, Rebecca Ortega, Reyes Ortega

LIAISON COUNSELORS: E. Farrelly, B. Oliver

The department of Personal Development is the instructional component of the College's counseling services. Courses provide a broad foundation in academic, career and personal success strategies to help students achieve their goals and participate as productive members of our society. Opportunities for practical application serve to build knowledge and skills in key areas such as planning and goal setting, decision-making, cultural competency, personal responsibility, self-awareness, critical thinking, emotional intelligence and communication. The objective of Personal Development is to promote student success by strengthening essential academic, career and life skills.

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 12 PEER MENTOR TRAINING*Units: 3**Hours: 54 lecture*

Experiential introduction to the method and process of being a skilled helper in academic peer support programs. Emphasis on communication skills, relationship development, knowledge of higher education, college policies and resources with the goal of promoting the academic and psychosocial factors that contribute to college and life success. (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 might include, but is not limited to, research papers, special subject area projects and research projects. 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*

Exposure to business/industry under the direction of a work-site supervisor, related to student's educational or occupational goals. Develops career awareness, experience and knowledge with a focus on job skills that would enhance academic learning. 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 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)



PHILOSOPHY

LIBERAL ARTS

DEAN: Rebecca Bocchicchio

ASSOCIATE DEANS: Anne Fleischmann, Susan Lucyga

DIVISION OFFICE: W 107

FACULTY: J. Haproff, V. Martin, J. Terry

LIAISON COUNSELORS: E. Farrelly, D. Quadros

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 FOR TRANSFER AA-T DEGREE

Philosophy is a broadly based discipline that examines the fundamental questions that arise in disparate areas of human experience. Courses are both historically and topically organized and emphasize the analysis of primary sources, the importance of critical thinking, the relationship between conclusions, justifications and logic. By developing reasoning skills, students will strengthen clarity of language usage, fortify argumentation skills and master the language and topics of the discipline of philosophy.

The Associate in Arts in Philosophy for Transfer degree (AA-T) prepares students to transfer into the CSU system to complete a bachelor's degree in Philosophy or a major deemed similar by a CSU campus. Students earning an associate degree for transfer and meeting the CSU minimum transfer admission requirements are guaranteed admission with junior standing to the CSU system, but not to a particular campus or major. Upon transfer, students will be required to complete no more than 60 additional prescribed units to earn a bachelor's degree.

To earn the Associate in Arts in Philosophy for Transfer degree, students must complete 60 CSU-transferable semester units with a minimum grade point average of 2.0, including both of the following:

- completion of all courses required for the major with grades of "C" or better; and
- completion of the California State University General Education Breadth (CSU GE) pattern or the Intersegmental General Education Transfer Curriculum (IGETC) pattern.

It is highly recommended that, prior to transferring, students complete courses that satisfy the CSU United States History, Constitution and American Ideals graduation requirement. In all cases, students should consult with a counselor for more information on university admission and transfer requirements.

REQUIRED COURSES:	UNITS
PHIL 2 Introduction to Philosophy: Ethics OR	
PHIL 6 Introduction to Philosophy: Knowledge and Reality	3
PHIL 12 Introduction to Symbolic Logic	3

PLUS 9 UNITS FROM THE FOLLOWING OR UNUSED COURSE FROM THE PRECEDING AREA:	
PHIL 4 Introduction to Critical Thinking	3
PHIL 10 Philosophy of Religion	3
PHIL 13 Introduction to Asian Philosophy	3
PHIL 20 Introduction to Ancient Greek Philosophy	3
PHIL 21 History of Modern Philosophy	3
PHIL 65 Introduction to the Philosophy of Science	3

PLUS 3 UNITS FROM THE FOLLOWING OR UNUSED COURSE FROM THE PRECEDING AREA:	
PHIL 15 Introduction to Philosophies of Self and Personhood . .	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

TOTAL UNITS REQUIRED: 18

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. In all cases, students should consult with a counselor for more information on university admission and transfer requirements. Students must fulfill the following major requirements with grades of "C" or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth pattern; or Intersegmental General Education Transfer Curriculum (IGETC).

REQUIRED COURSES:	UNITS
PHIL 12 Introduction to Symbolic Logic	3
PHIL 20 Introduction to Ancient Greek Philosophy	3
PHIL 21 History of Modern Philosophy	3

PLUS 12 UNITS FROM:	
PHIL 2 Introduction to Philosophy: Ethics	3
PHIL 4 Introduction to Critical Thinking	3
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 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 Philosophy of Science	3

TOTAL UNITS REQUIRED: 21

PHILOSOPHY COURSES »

PHIL 2 INTRODUCTION TO PHILOSOPHY: ETHICS

Units: 3

Advisory: Eligibility for ENGL 1A

Hours: 54 lecture

The concept of morality and values, Western systems of ethics including Virtue Ethics, Utilitarianisms, Kantian ethics, Feminist Moral Theory and their application to contemporary moral dilemmas. (C-ID PHIL 120) (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 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 argumentation, conceptual analysis, analysis and evaluation of fundamental assumptions and principles of various philosophical systems and philosophical interpretation of primary texts on topics from epistemology and metaphysics. (C-ID PHIL 100) (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 the principles of deductive reasoning including formal techniques of sentential and predicate logic. (C-ID PHIL 210) (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 Lorenz. (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, Sceptics and Epicureans. (C-ID PHIL 130) (CSU, UC)

PHIL 21 HISTORY OF MODERN PHILOSOPHY

Units: 3

Advisory: Eligibility for ENGL 1A

Hours: 54 lecture

Sixteenth through Eighteenth century philosophy with emphasis on broad epistemological or metaphysical theories, developments of empiricism and rationalism from Descartes to Kant. (C-ID PHIL 140) (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. 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: Rebecca Bocchicchio

ASSOCIATE DEANS: Anne Fleischmann, Susan Lucyga

DIVISION OFFICE: W 107

FACULTY: K. Amyx, R. Gregg, R. Snook

LIAISON COUNSELORS: B. Gosney, N. Martinis

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 the following major requirements with grades of "C" or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth pattern; or Intersegmental General Education Transfer Curriculum (IGETC).

REQUIRED COURSES:

	UNITS
PHOT 10 History and Aesthetics of Photography (also ART 11)	3
PHOT 60A Elementary Photography	3
PHOT 60B Intermediate Photography	3
PHOT 65 Documentary Photography OR	
PHOT 85 Photojournalism	2
PHOT 70A Advanced Photography	3
PHOT 75 Introduction to Digital Imaging (also AAD 75)	3

PLUS 7-9 UNITS FROM:

AAD 20 Portfolio Development and Presentation.	3
ART 4A Drawing I	3
PHOT 28 Independent Study.	1
PHOT 30 Photographing Works of Art (also AAD 30) . . . . .	.5
PHOT 61 Photography Laboratory.	1
PHOT 65 Documentary Photography	2
PHOT 70B Advanced Photography	3
PHOT 76 Advanced Projects in Digital Imaging (also AAD 76)	3
PHOT 78 Digital Photography	3

PHOT 80 Color Photography	2
PHOT 85 Photojournalism	2
PHOT 88 Business Practices for Photographers	3
PHOT 90A-T Photography Field Workshop . . . . .	.5-2
PHOT 92 Alternative Processes	3
PHOT 95 Internship in Photography . . . . .	.5-2
TOTAL UNITS REQUIRED: 24-26	

**PHOTOGRAPHY
CERTIFICATE OF ACHIEVEMENT**

A certificate is designed to provide career technical skills; it is not equivalent to an associate degree.

REQUIRED COURSES:	UNITS
PHOT 10 History and Aesthetics of Photography (also ART 11)	3
PHOT 60A Elementary Photography	3
PHOT 60B Intermediate Photography	3
PHOT 65 Documentary Photography OR	
PHOT 85 Photojournalism	2
PHOT 70A Advanced Photography	3
PHOT 75 Introduction to Digital Imaging (also AAD 75)	3
PHOT 88 Business Practices for Photographers	3

PLUS 9 UNITS FROM:

AAD 20 Portfolio Development and Presentation	3
ART 4A Drawing I	3
PHOT 28 Independent Study	1
PHOT 30 Photographing Works of Art (also AAD 30) . . . . .	.5
PHOT 61 Photography Laboratory	1
PHOT 65 Documentary Photography	2
PHOT 70B Advanced Photography	3
PHOT 76 Advanced Projects in Digital Imaging (also AAD 76)	3
PHOT 78 Digital Photography	3
PHOT 80 Color Photography	2
PHOT 85 Photojournalism	2
PHOT 90A-T Photography Field Workshop . . . . .	.5-2
PHOT 92 Alternative Processes	3
PHOT 95 Internship in Photography . . . . .	.5-2
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 skills certificate is designed to provide career technical skills; it is not equivalent to an associate degree.

REQUIRED COURSE:	UNITS
PHOT 92 Alternative Processes	3

PLUS 4 UNITS FROM:

PHOT 28 Independent Study	1
PHOT 60B Intermediate Photography	3
PHOT 61 Photography Laboratory Experience	1
PHOT 90G Pinhole Photography Workshop . . . . .	.5-1
TOTAL UNITS REQUIRED: 7	

**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 skills certificate is designed to provide career technical skills; it is not equivalent to an associate degree.

REQUIRED COURSES

9 UNITS FROM:

PHOT 30 Photographing Works of Art (also AAD 30) . . . . .	.5
PHOT 75 Introduction to Digital Imaging (also AAD 75)	3
PHOT 78 Digital Photography	3
PHOT 80 Color Photography	2
PHOT 90B Field Workshop: Cityscape . . . . .	.5
PHOT 90I Night Photography Field Workshop . . . . .	.5
PHOT 90L Field Workshop: Landscape . . . . .	.5
PHOT 90T Travel Photography Field Workshop . . . . .	.5
TOTAL UNITS REQUIRED: 9	

**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 skills certificate is designed to provide career technical skills; it is not equivalent to an associate degree.

REQUIRED COURSES:	UNITS
PHOT 75 Introduction to Digital Imaging (also AAD 75)	3
PHOT 76 Advanced Projects in Digital Imaging (also AAD 76)	3
PHOT 78 Digital Photography	3
TOTAL UNITS REQUIRED: 9	

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 skills certificate is designed to provide career technical skills; it is not equivalent to an associate degree.

REQUIRED COURSES

7 UNITS FROM:

PHOT 28 Independent Study	1
PHOT 80 Color Photography	2
PHOT 90A Introduction to the Zone System	1
PHOT 90B Field Workshop: Cityscape	1
PHOT 90L Field Workshop: Landscape	2
PHOT 90N Field Workshop: Color Nature Photography . . . . .	.5-3
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 skills certificate is designed to provide career technical skills; it is not equivalent to an associate degree.

REQUIRED COURSES

10 UNITS FROM:

PHOT 60B Intermediate Photography	3
PHOT 65 Documentary Photography	2
PHOT 80 Color Photography	2
PHOT 85 Photojournalism	2
PHOT 90H Documentary Field Workshop . . . . .	.5-1
PHOT 90J 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 skills certificate is designed to provide career technical skills; it is not equivalent to an associate degree.

REQUIRED COURSES

12 UNITS FROM:

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	3
PHOT 80 Color Photography	2
PHOT 90A Introduction to the Zone System	1
PHOT 90G Pinhole Photography Workshop . . . . .	.5-1
PHOT 90I Night Photography Field Workshop . . . . .	.5-1
PHOT 92 Alternative Processes	3

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 skills certificate is designed to provide career technical skills; it is not equivalent to an associate degree.

REQUIRED COURSES

13 UNITS FROM:

PHOT 28 Independent Study	1
PHOT 70A Advanced Photography	3
PHOT 70B Advanced Photography	3
PHOT 78 Digital Photography	3
PHOT 88 Business Practices for Photographers	3
PHOT 90H Documentary Field Workshop . . . . .	.5
PHOT 90J Photojournalism Field Workshop . . . . .	.5
PHOT 90P Workshop: Portraiture	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, photography's role in the development of mass culture and other societal influences. (CSU, UC)

PHOT 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. 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 digital files, prints, or slides for cataloging, portfolios, or publication. Covers equipment needed for both artificial and natural light situations, camera considerations, proper exposure and presentation of copy work for both two-dimensional and three-dimensional art. Students must furnish digital or film camera, processing, storage and presentation materials. (CSU)

PHOT 60A ELEMENTARY PHOTOGRAPHY

Units: 3

Hours: 72 (36 lecture, 36 activity)

Aesthetic use of digital and film cameras. Elements of design and influence of photography as an art form explored. Topics include subject selection, exposure control, composition, lighting, digital and film camera usage, film development, enlarging, print finishing, presentation and responses to photographs within framework of historical and current perspectives. Students must furnish digital storage media, film and photographic printing paper. Providing an interchangeable lens digital or film camera recommended but not required. (CSU, UC)

PHOT 60B INTERMEDIATE PHOTOGRAPHY

Units: 3

Prerequisite: Completion of PHOT 60A with grade of "C" or better

Hours: 72 (36 lecture, 36 activity)

Technical and experimental aspects of black and white photographic tools and techniques stressing the creative use of photography. Topics include creative camera and darkroom experimentation, medium format and toy cameras, macro photography, archival permanence and the handmade book. Students must furnish film, paper and presentation materials. (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. (not transferable)

PHOT 65 DOCUMENTARY PHOTOGRAPHY

Units: 2

Prerequisite: Completion of PHOT 60A or 78 with grade of "C" or better

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 supply camera, digital media or film and presentation materials. (CSU)

PHOT 70A ADVANCED PHOTOGRAPHY

Units: 3

Prerequisite: Completion of PHOT 60A with grade of "C" or better

Advisory: Completion of PHOT 78 with grade of "C" or better

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 or digital media, paper and presentation materials. (CSU)

PHOT 70B ADVANCED PHOTOGRAPHY

Units: 3

Prerequisite: Completion of PHOT 70A with grade of "C" or better

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. (CSU)

PHOT 75 INTRODUCTION TO DIGITAL IMAGING

Also known as AAD 75

Units: 3

Advisory: Completion of AAD 70 with grade of "C" or better

Hours: 72 (36 lecture, 36 activity)

Introduction to the acquisition and computer manipulation of photographs for design and photography. Analysis and critique of images from initial concept to final project creation. Basic scanning, image adjustments, retouching, compositing and file preparation for printing and other uses. (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. (CSU)

PHOT 78 DIGITAL PHOTOGRAPHY

Units: 3

Prerequisite: Completion of PHOT 60A with grade of "C" or better

Hours: 72 (36 lecture, 36 activity)

Use of digital cameras for direct capture of photographic images. Emphasis on practical use of the digital camera in real world situations. Creative and technical controls offered by digital cameras, image file management and image optimization. Color management and digital output to inkjet and silver-based printers. Basic video capture with digital still cameras. (CSU)

PHOT 80 COLOR PHOTOGRAPHY

Units: 2

Prerequisite: Completion of PHOT 78 or PHOT 75/AAD 75 with grade of "C" or better

Hours: 54 (18 lecture, 36 activity)

Concentration on composition, exposure, color and theme in creating expressive color photographs. In depth study of color as communication element in photography. Camera techniques, editing, file preparation and management are also covered. Using digital technology, students create digital and multimedia portfolios. Students must provide digital camera. (CSU)

PHOT 85 PHOTOJOURNALISM

Units: 2

Prerequisite: Completion of PHOT 60A or 78 with grade of "C" or better

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 digital camera and computer storage media. (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

Prerequisite: Completion of PHOT 60A with grade of "C" or better

Hours: 26 (14 lecture, 12 activity)

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 digital photography will be presented. (CSU)

PHOT 90B FIELD WORKSHOP: CITYSCAPE

Units: 0.5-3

Advisory: Completion of PHOT 60A or 78 with grade of "C" or better

Hours: 13 (7 lecture, 6 activity) per .5 unit

Exploration of the city and urban environments as subject matter. Topics include camera and lens use, composition, equipment, metering and lighting and the traditions of cityscape photography. Location of field study will vary. Students must supply camera, digital media or film and presentation materials. (CSU)

PHOT 90G PINHOLE PHOTOGRAPHY WORKSHOP

Units: 0.5-3

Advisory: Completion of PHOT 60A with grade of "C" or better

Hours: 13 (7 lecture, 6 activity) per .5 unit

Design, construction and use of simple, inexpensive lens-less cameras from containers of various sizes and shapes with emphasis on function and aesthetics. Aperture calculations and effects of camera shape upon image distortion. Comparisons with traditional cameras and photography. Historical background and current resurgent interest in pinhole photography explored. (CSU)

PHOT 90H DOCUMENTARY FIELD WORKSHOP

Units: 0.5-3

Advisory: Completion of PHOT 60A or 78 with grade of "C" or better

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 supply camera, digital media or film and presentation materials. Location of field study will vary. (CSU)

PHOT 90I NIGHT PHOTOGRAPHY FIELD WORKSHOP

Units: 0.5-3

Advisory: Completion of PHOT 60A with grade of "C" or better

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, digital and film capture, 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 or digital media, processing and presentation materials. (CSU)

PHOT 90J PHOTOJOURNALISM FIELD WORKSHOP

Units: 0.5-3

Advisory: Completion of PHOT 60A or 78 with grade of "C" or better

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, equipment, metering and lighting, working methods of photojournalists and the unique aspects of the event or region being studied. Students must furnish digital camera. (CSU)

PHOT 90L FIELD WORKSHOP: LANDSCAPE

Units: 0.5-3

Advisory: Completion of PHOT 60A or 78 with grade of "C" or better

Hours: 13 (7 lecture, 6 activity) per .5 unit

Exploration of landscape photography. Topics include camera and lens use, composition, 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, digital media or film and presentation materials. (CSU)

PHOT 90M AUTOBIOGRAPHICAL PHOTOGRAPHY

Units: 0.5-3

Advisory: Completion of PHOT 60A with grade of "C" or better

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 narration and the influence of context such as gender, age, family and culture upon visual communication. Students must furnish camera, film or digital media, print processing and presentation supplies. (CSU)

PHOT 90N FIELD WORKSHOP: COLOR NATURE PHOTOGRAPHY

Units: 0.5-3

Advisory: Completion of PHOT 60A or 78 with grade of "C" or better

Hours: 13 (7 lecture, 6 activity) per .5 unit

Exploration of color nature photography. Topics include subject selection, the impact and use of color, capturing accurate vs. altered color, equipment, composition, metering and overcoming the challenges of location and weather. Students must supply camera, digital media or film and presentation materials. (CSU)

PHOT 90P WORKSHOP: PORTRAITURE

Units: 0.5-3

Prerequisite: Completion of PHOT 60A or 78 with grade of "C" or better

Hours: 13 (7 lecture, 6 activity) per .5 unit

Exploration of portraiture in outdoor settings. Topics include camera, lens and equipment selection, camera use, lighting, posing and composition. Students must supply camera, digital media or film and presentation materials. Location of field study will vary. (CSU)

PHOT 90T TRAVEL PHOTOGRAPHY FIELD WORKSHOP*Units: 0.5-3**Advisory: Completion of PHOT 60A with grade of "C" or better**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, digital or film 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. (CSU)

PHOT 92 ALTERNATIVE PROCESSES*Units: 3**Advisory: Completion of PHOT 60A with grade of "C" or better**Hours: 72 (36 lecture, 36 activity)*

Exploration of alternative photographic processes, many of which were first developed in the 19th century and are known for producing expressive prints with a unique look. The merging of digital technology and non-traditional printing will be explored. Processes may include: cyanotype, Van Dyke brown, gum dichromate, hand-coated silver emulsion and laser transfers. (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

HEALTH, PHYSICAL EDUCATION, RECREATION/ATHLETICS

DEAN: Lucas Moosman

DIVISION OFFICE: Ft

FACULTY: D. Brownell, M. Conway, S. Decker, E. Eaton, H. Eubanks, J. Fusano, J. Gantt, R. Goldenberg, B. Murrish, V. Nelson, B. Noonan, J. Tisdell, R. Willson

LIAISON COUNSELORS: B. Gosney, T. Times

The Physical Education program offers a wide variety of courses that improve physical fitness, sport skills and dance performance abilities. The courses are designed to provide physiological results and wholesome social interchange. Lower division curricula for majors are dependent upon California university and out-of-state university requirements.

KINESIOLOGY FOR TRANSFER**AA-T DEGREE**

Kinesiology involves the study of physical activity and its impact on health, society and quality of life. Students will create a balance between physical fitness, social well-being, health and academic success; distinguish principles of healthy weight management through exercise and nutrition; identify and practice the fundamental concepts of wellness and fitness; demonstrate essential motor skill patterns to fit a variety of activities and identify and practice high safety standards, support environmental needs and provide a positive experience for participants.

The Associate in Arts in Kinesiology for Transfer degree (AA-T) prepares students to transfer into the CSU system to complete a bachelor's degree in Kinesiology, Physical Education, or a major deemed similar by a CSU campus. Students earning an associate degree for transfer and meeting the CSU minimum transfer admission requirements are guaranteed admission with junior standing within the CSU system. Students are also given priority admission consideration to their local CSU campus but not to a particular campus or major. Upon transfer, students will be required to complete no more than 60 additional prescribed units to earn a bachelor's degree.

To earn the Associate in Arts in Kinesiology for Transfer degree, students must complete 60 CSU-transferable semester units with a minimum grade point average of 2.0, including both of the following:

- completion of all courses required for the major with grades of "C" or better; and
- completion of the California State University General Education Breadth (CSU GE) pattern or the Intersegmental General Education Transfer Curriculum (IGETC) pattern.

It is highly recommended that, prior to transferring, students complete courses that satisfy the CSU United States History, Constitution and American Ideals graduation requirement. In all cases, students should consult with a counselor for more information on university admission and transfer requirements.

REQUIRED COURSES:	UNITS
PHED 81 Introduction to Kinesiology	3
BIOL 5 Human Anatomy OR	
BIOL 7A Human Anatomy I AND	
BIOL 7B Human Anatomy II	4-5
BIOL 6 Human Physiology	5

PLUS 3 UNITS (ONE COURSE FROM THREE OF THE FOLLOWING AREAS):

Aquatics:	
PHED 8 Aquacise OR	
PHED 36 Fundamental Swimming OR	
PHED 39 Swimming Conditioning	1
Combatives:	
PHED 14 Tai Chi OR	
PHED 66 Combative Self Defense OR	
PHED 69 Peaceful Self Defense OR	
PHED 80 Multi Self Defense System	1
Dance:	
PHED 51C Line Dance OR	
PHED 51D Modern Ballroom Dance OR	
PHED 53 Modern Dance OR	
PHED 54 Jazz Dance OR	
PHED 56A Ballet I	1
Fitness:	
PHED 3A Basic Aerobic Training with Fitness Equipment OR	
PHED 3B Advanced Aerobic Circuit Training with Fitness Equipment OR	
PHED 5A Weight Training OR	
PHED 5B Strength Training—Circuit and Power Lifting OR	
PHED 6 Physical Fitness OR	
PHED 7 Aerobic Fitness OR	
PHED 9 Step Aerobic Training OR	
PHED 13 Cardio Kickboxing OR	
PHED 19 Mat Pilates OR	
PHED 55 Fundamentals of Yoga	1
Individual Sports:	
PHED 10 Golf OR	
PHED 11 Badminton OR	
PHED 16 Tennis	1
Team Sports:	
PHED 23 Recreational Basketball OR	
PHED 26 Volleyball OR	
PHED 27A Soccer Level I OR	
PHED 27B Soccer Level II	1

PLUS 6-7 UNITS FROM:	
HED 1 Standard First Aid/Community CPR	3
MATH 13 Elementary Statistics OR	
PSYC 142 Introduction to Psychological Statistics OR	
SOC 15 Introduction to Statistics in Sociology	3-4

TOTAL UNITS REQUIRED: 21-23

**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. In all cases, students should consult with a counselor for more information on university admission and transfer requirements. Students must fulfill the following major requirements with grades of "C" or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth pattern; or Intersegmental General Education Transfer Curriculum (IGETC).

REQUIRED COURSE:	UNITS
PHED 81 Introduction to Kinesiology	3

PLUS 9-10 UNITS FROM:	
BIOL 5 Human Anatomy OR	
BIOL 7A Human Anatomy I AND	
BIOL 7B Human Anatomy II	4-5
BIOL 6 Human Physiology	5
CHEM 2A Introduction to Chemistry I	5

PLUS 6-9 UNITS FROM:	
BIOL 1 General Biology	4
BIOL 10 Introduction to Biology	3
HED 1 Standard First Aid/Community CPR	3
HED 2 Health Education	3
MATH 13 Elementary Statistics	4
NUTF 10 Principles of Nutrition	3
PHED 83 Physiology of Fitness	3
PHED 85 Techniques of Fitness Instruction	3
PHYS 105 General Physics I AND	
PHYS 105L General Physics I Laboratory	5

PLUS 2-3 UNITS FROM THE FOLLOWING THEORY COURSES:	
PHED 82 Sports Officiating	2
PHED 84 Care and Prevention of Athletic Injuries	3
PHED 86 Psychology of Sport	3
PHED 88 Introduction to Coaching Team Sports	3
PHED 89A Theory of Baseball	3
PHED 89B Theory of Basketball	2
PHED 89C Theory of Softball	3
PHED 89F Theory of Football	2
PHED 89G Theory of Volleyball	3

PLUS 1–2.5 UNITS FROM THE FOLLOWING ACTIVITY COURSES:

PHED 3A Basic Aerobic Training with Fitness Equipment . . . . .	.5-2
PHED 3B Advanced Aerobic Circuit Training with Fitness Equipment . . . . .	.5-2
PHED 5A Weight Training . . . . .	.5-2
PHED 5B Strength Training—Circuit and Power Lifting . . . . .	.5-2
PHED 6 Physical Fitness . . . . .	.5-2
PHED 10 Golf . . . . .	.5-2
PHED 13 Cardio Kickboxing . . . . .	.5-2
PHED 16 Tennis . . . . .	.5-2
PHED 19 Mat Pilates . . . . .	.5-2
PHED 23 Recreational Basketball . . . . .	.5-2
PHED 26 Volleyball . . . . .	.5-2
PHED 27A Soccer Level I . . . . .	.5-2
PHED 27B Soccer Level II . . . . .	.5-2
PHED 35 Lifeguard Training	2.5
PHED 36 Fundamental Swimming . . . . .	.5-2
PHED 39 Swimming Conditioning . . . . .	.5-2
PHED 51B Square Dance . . . . .	.5-2
PHED 51C Line Dance . . . . .	.5-2
PHED 51D Modern Ballroom Dance . . . . .	.5-2
PHED 55 Fundamentals of Yoga . . . . .	.5-2
PHED 66 Combative Self Defense	1-2
PHED 71 Adaptive Physical Education . . . . .	.5-2
PHED 73 Adaptive Aquatics . . . . .	.5-2
RECM 70 Backpacking	2
RECM 71 Rock Climbing	2

TOTAL UNITS REQUIRED: 21-27.5

PHYSICAL EDUCATION COURSES »

PHED 3A BASIC AEROBIC TRAINING WITH FITNESS EQUIPMENT

*Formerly known as PHED 3
Units: 0.5-2*

Hours: 36 activity per unit

Designed to educate students in the areas of basic aerobic and cardiovascular fitness using fitness equipment as well as evaluate and improve present aerobic fitness level. (CSU, UC-with unit limitation)

PHED 3B ADVANCED AEROBIC CIRCUIT TRAINING WITH FITNESS EQUIPMENT

Units: 0.5-2

Advisory: Completion of PHED 3A with grade of "C" or better

Hours: 36 activity per unit

Designed to educate students in the areas of aerobic circuit training as well as evaluate and improve present aerobic fitness level. (CSU, UC-with unit limitation)

PHED 5A WEIGHT TRAINING

Formerly known as PHED 5

Units: 0.5-2

Hours: 36 activity per unit

Progressive resistance exercises with free weights and weight machines to develop muscular strength and endurance. (CSU, UC-with unit limitation)

PHED 5B STRENGTH TRAINING—CIRCUIT AND POWER LIFTING

Units: 0.5-2

Hours: 36 activity per unit

Strength training exercises in progressive circuit and power lifting with free weights and weight machines. Designed to develop core strength, muscular strength and endurance. (CSU, UC-with unit limitation)

PHED 6 PHYSICAL FITNESS

Units: 0.5-2

Hours: 36 activity per unit

Emphasis on life-long exercise principles using a variety of muscular strength and endurance, aerobics and flexibility workouts. Examines cardio-respiratory fitness, exercise principles and how to design and evaluate fitness programs/workouts. Students experience different types of workouts and are encouraged to apply the information to their own body and level of conditioning. (CSU, UC-with unit limitation)

PHED 7 AEROBIC FITNESS

Units: 0.5-2

Hours: 36 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, floorwork and warm-down utilizing a variety of calisthenic and dance techniques and skills. (CSU, UC-with unit limitation)

PHED 8 AQUACISE

Units: 0.5-2

Hours: 36 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. (CSU, UC-with unit limitation)

PHED 9 STEP AEROBIC TRAINING

Units: 0.5-2

Hours: 36 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. (CSU, UC-with unit limitation)

PHED 10 GOLF*Units: 0.5-2**Hours: 36 activity per unit*

Development of sufficient basic proficiency in golf to recognize and enjoy it as a lifetime activity; includes U.S.G.A. rules, etiquette and the fundamental mechanics involved in the use of irons and woods. (CSU, UC-with unit limitation)

PHED 11 BADMINTON*Units: 0.5-2**Hours: 36 activity per unit*

Fundamental techniques of badminton skills including: service, drop shots, clear shots, forehand and backhand strokes. Covers strategy of singles and doubles play, rules and game etiquette. Provides an opportunity for competition. (CSU, UC-with unit limitation)

PHED 13 CARDIO KICKBOXING*Units: 0.5-2**Hours: 36 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. (CSU, UC-with unit limitation)

PHED 14 TAI CHI*Units: 0.5-2**Hours: 36 activity per unit*

Ancient Chinese martial art that improves balance and coordination, promotes health and reduces stress. Emphasizes meditation in motion and self-defense. Focus on mind/body harmony through balancing body energy (chi). (CSU, UC-with unit limitation)

PHED 16 TENNIS*Units: 0.5-2**Hours: 36 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. (CSU, UC-with unit limitation)

PHED 17 BODY SCULPTING*Units: 0.5-2**Hours: 36 activity per unit*

Designed to improve muscle tone and cardiovascular fitness. Focus on non-impact weight bearing exercises utilizing light-weight, 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. (CSU, UC-with unit limitation)

PHED 19 MAT PILATES*Units: 0.5-2**Hours: 36 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. (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*

This course encourages a healthy attitude toward exercise, wellness and weight management. Topics include assessing and improving fitness levels, as well as nutrition, healthy living and active lifestyle strategies that are involved in attaining and maintaining appropriate levels of wellness. Students with body mass indexes of 25 or over are best suited for this course because of the emphasis on weight management. (CSU, UC-with unit limitation)

PHED 23 RECREATIONAL BASKETBALL*Units: 0.5-2**Hours: 36 activity per unit*

Introduction to basketball as a recreational/cardio sport, designed to assist students in acquiring basic skills and increasing aerobic fitness, balance and advanced fitness levels, while actively participating in basketball activities. (CSU, UC-with unit limitation)

PHED 26 VOLLEYBALL*Units: 0.5-2**Hours: 36 activity per unit*

Fundamental skills, rules and strategy. Primary emphasis on the application of skills and strategy needed to play volleyball. (CSU, UC-with unit limitation)

PHED 27A SOCCER LEVEL I*Formerly known as PHED 27**Units: 0.5-2**Hours: 36 activity per unit*

Fundamental theory and practice, including passing, dribbling, shooting, formations and strategy. Primary emphasis on the application of skills, rules and introduction to strategy in game play. (CSU, UC-with unit limitation)

PHED 27B SOCCER LEVEL II*Units: 0.5-2**Hours: 36 activity per unit*

Tactical theory and practice, including small group attacking, small group defending, team attacking and team defending. Primary emphasis on tactics and strategy within the game. (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. See Independent Study page in catalog. (CSU, UC-with unit limitation)

PHED 29 FLAG FOOTBALL

Units: 0.5-2

Hours: 36 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. (CSU, UC-with unit limitation)

PHED 30 RUGBY

Units: 0.5-2

Hours: 36 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. (CSU, UC-with unit limitation)

PHED 32 ACE PERSONAL TRAINER PREPARATION

Units: 3

Hours: 54 lecture

Synthesis of principles and theories in exercise physiology, kinesiology, nutrition and basic behavioral sciences. Application of principles to physical fitness testing and exercise program design and implementation. Prepares students for the American Council on Exercise (ACE) personal trainer certification examination. (CSU)

PHED 33 RECERTIFICATION FOR LIFEGUARD TRAINING AND 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: 2.5

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 and CPR/AED for the Professional Rescuer/First Aid certificates issued upon successful completion of course and American Red Cross requirements. (CSU, UC)

PHED 36 FUNDAMENTAL SWIMMING

Units: 0.5-2

Hours: 36 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. (CSU, UC-with unit limitation)

PHED 39 SWIMMING CONDITIONING

Units: 0.5-2

Hours: 36 activity per unit

Development of muscular and cardiovascular endurance. Instruction in distance training, interval training, water exercise, sprint training, stroke techniques and water games. (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. (CSU, UC)

PHED 51B SQUARE DANCE

Formerly known as PHED 51

Units: 0.5-2

Hours: 36 activity per unit

Introduction to square, round and contra dancing. Includes development of rhythm and the history of the dances. (CSU, UC)

PHED 51C LINE DANCE

Formerly known as PHED 51

Units: 0.5-2

Hours: 36 activity per unit

Basic skills in line dancing. Traditional, past and current dances are taught. Includes development of rhythm and the history of social dances. (CSU, UC)

PHED 51D MODERN BALLROOM DANCE

Formerly known as PHED 51

Units: 0.5-2

Hours: 36 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. (CSU, UC)

PHED 53 MODERN DANCE

Units: 0.5-2

Hours: 36 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. (CSU, UC)

PHED 54 JAZZ DANCE

Units: 0.5-2

Hours: 36 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. (CSU, UC)

PHED 55 FUNDAMENTALS OF YOGA

Units: 0.5-2

Hours: 36 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. (CSU, UC-with unit limitation)

PHED 56A BALLET I

Formerly known as PHED 56

Units: 0.5-2

Hours: 36 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 are explored. (CSU, UC)

PHED 56B BALLET II

Units: 0.5-2

Advisory: Completion of PHED 56A with grade of "C" or better

Hours: 36 activity per unit

Continuation of classical ballet training, exploring elements of ballet history, musicality, terminology, technique and performance. Pointe technique and character dance are also presented. (CSU, UC)

PHED 63 PERSONAL SAFETY

Units: 1.5

Hours: 54 (18 lecture, 36 laboratory)

Provides individuals with information about personal safety and develops skills to avoid harm. Covers awareness in a variety of locations, such as home, workplace, school, online environment, car and parking lot. Topics include avoidance and awareness of potential dangers, appropriate responses, self-defense strategies (physical and non-physical), legal aspects of self-defense, physical fitness, sensitivity to violent crime victims and the psychological factors involved in victimization. (CSU)

PHED 66 COMBATIVE SELF DEFENSE

Units: 1-2

Hours: 36 activity per unit

Hand-to-hand combat for self defense. Emphasis on disarming and immobilizing an assailant; includes martial arts such as Kenju Do. (CSU, UC-with unit limitation)

PHED 68 INTRODUCTION TO MEDITATION

Units: 0.5-2

Hours: 36 activity per unit

Exploration of the body/mind connection through techniques of visualization, affirmation, concentration and meditation. (CSU)

PHED 69 PEACEFUL SELF DEFENSE

Units: 0.5-2

Hours: 36 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. (CSU, UC-with unit limitation)

PHED 71 ADAPTIVE PHYSICAL EDUCATION

Units: 0.5-2

Advisory: Physician's approval recommended for participation

Hours: 36 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. (CSU, UC-with unit limitation)

PHED 72 ADAPTIVE INDIVIDUALIZED EXERCISES

Units: 0.5-2

Advisory: Physician's approval recommended for participation

Hours: 36 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. (CSU, UC-with unit limitation)

PHED 73 ADAPTIVE AQUATICS

Units: 0.5-2

Advisory: Physician's approval recommended for participation

Hours: 36 activity per unit

For physically limited individuals, providing individually prescribed exercises, adaptive and/or modified swimming and exercises designed to improve cardiovascular endurance. (CSU, UC-with unit limitation)

PHED 74 ADAPTIVE AEROBIC FITNESS

Units: 0.5-2

Advisory: Physician's approval recommended for participation

Hours: 36 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. (CSU, UC-with unit limitation)

PHED 75 ADAPTIVE WALK/JOG

Units: 1

Advisory: Physician's approval recommended for participation

Hours: 36 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. (CSU, UC-with unit limitation)

PHED 80 MULTI SELF DEFENSE SYSTEM

Units: 0.5-2

Hours: 36 activity per unit

A multi combat self defense system combining the martial arts of Escrima (stick and knife fighting), 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. (CSU, UC-with unit limitation)

PHED 81 INTRODUCTION TO KINESIOLOGY

Units: 3

Hours: 54 lecture

Designed for Kinesiology majors and minors. Introduces interdisciplinary approach to the study of human movement. Survey of the basic principles and sub-disciplines in Kinesiology. Examines the study of Kinesiology with emphasis on curriculum standards and career opportunities in the areas of teaching, coaching, allied health and fitness professions. (CSU, UC)

PHED 82 SPORTS OFFICIATING

Units: 2

Hours: 54 (36 lecture, 18 laboratory)

Officiating team and individual sports. Emphasizes officiating concepts, skills, fundamentals and etiquette of basketball, baseball/softball, volleyball and soccer. Students are required to perform physical activities associated with officiating. (CSU)

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

Designed for students interested in the prevention, evaluation and care of athletic injuries. Introduction to theoretical concepts and practical skills necessary for the proper and effective management of common athletic injuries and medical conditions. Includes the prevention, recognition, evaluation, management and rehabilitation of injuries, taping techniques and emergency procedures. (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. Strength and weight training techniques. (CSU)

PHED 86 PSYCHOLOGY OF SPORT

Units: 3

Hours: 54 lecture

Surveys the theory, research and applications of psychology pertaining to exercise and sports. Presents current topics and issues relevant to sport psychology. Designed for students interested in coaching, athletic training and personal performance. (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. (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: 3

Hours: 54 lecture

Study and analysis of competitive baseball. Emphasis on defense, offense, pitching, base running and team strategy. Designed for students with baseball experience and/or the 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 89F THEORY OF FOOTBALL*Units: 2**Hours: 36 lecture*

Study and analysis of competitive football. Emphasis on defense, offense, special teams and strategies. Designed for students with football experience and/or the desire to coach football at any level. (CSU, UC-with unit limitation)

PHED 89G THEORY OF VOLLEYBALL*Units: 3**Hours: 54 lecture*

Theories of offensive and defensive strategies of competitive volleyball. Study, analysis and critique of offensive and defensive skills and strategies in preparation for all levels of volleyball competition. Designed for students with volleyball experience and/or the desire to coach or play volleyball at any level. (CSU)

PHED 93 SPORTS ACTIVITIES*Units: 0.5-2**Hours: 36 activity per unit*

Intra-class competition in the group activities of basketball, flag football, volleyball, soccer and softball. (CSU, UC-with unit limitation)

PHED 114 CHEERLEADING TRAINING*Units: 1-2**Hours: 36 activity per unit*

Includes warm-up, flexibility, strength and conditioning, technical skills and choreography of cheerleading, dance, stunting and tumbling for performance and entertainment. (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 I 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 802 ADAPTIVE MOTOR SKILL DEVELOPMENT*Formerly known as SUPE 802**Units: 0**Hours: 54 laboratory*

Physical activities to meet the varied needs of substantially disabled students. Activities include team sports, jogging/walking, weight training, Special Olympic training, swimming and yoga. May be repeated. (noncredit)



PHYSICS

SCIENCES AND MATHEMATICS

DEAN: Heather Roberts

ASSOCIATE DEAN: Michael Kane

DIVISION OFFICE: V 211

FACULTY: D. Calabrese, D. Harris, A. Shackell

LIAISON COUNSELORS: C. Axton, E. Farrelly, Reyes Ortega

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 FOR TRANSFER

AS-T DEGREE

Physics is a program that provides students of diverse abilities and needs rigorous preparation that affords them opportunities to develop the technical, analytical and critical thinking skills necessary to achieve their wide ranging goals and become lifelong learners. Program curriculum introduces students to the fundamental principles that govern the nature of interactions in the physical world. The curriculum strongly emphasizes both the theoretical and experimental fundamentals in physics. Successful completion of the curriculum in physics prepares the student for transfer to four-year colleges and universities.

The Associate in Science in Physics for Transfer degree (AS-T) prepares students to transfer into the CSU system to complete a bachelor's degree in Physics or a major deemed similar by a CSU campus. Students earning an associate degree for transfer and meeting the CSU minimum transfer admission requirements are guaranteed admission with junior standing to the CSU system, but not to a particular campus or major. Upon transfer, students will be required to complete no more than 60 additional prescribed units to earn a bachelor's degree.

To earn the Associate in Science in Physics for Transfer degree, students must complete 60 CSU-transferable semester units with a minimum grade point average of 2.0, including both of the following:

- completion of all courses required for the major with grades of "C" or better; and
- completion of the California State University General Education Breadth (CSU GE) pattern or the Intersegmental General Education Transfer Curriculum (IGETC) pattern.

It is highly recommended that, prior to transferring, students complete courses that satisfy the CSU United States History, Constitution and American Ideals graduation requirement. In all cases, students should consult with a counselor for more information on university admission and transfer requirements.

REQUIRED COURSES:

UNITS

PHYS 205 Principles of Physics: Mechanics	4
PHYS 205L Principles of Physics Laboratory: Mechanics	1
PHYS 210 Principles of Physics: Electricity and Magnetism	3
PHYS 210L Principles of Physics Laboratory: Electricity and Magnetism	1
PHYS 215 Principles of Physics: Heat, Waves and Modern Physics	3
PHYS 215L Principles of Physics Laboratory: Heat, Waves and Modern Physics.	1
MATH 30 Analytical Geometry and Calculus I	4
MATH 31 Analytical Geometry and Calculus II.	4
MATH 32 Analytical Geometry and Calculus III	4

TOTAL UNITS REQUIRED: 25

Additional Recommended Preparation (while these courses are not required for this degree, completion of these courses will better prepare students for upper-division physics courses):

- MATH 33 Differential Equations and Linear Algebra
- CSCI 12 Programming Concepts and Methodology I
- CHEM 1A General Chemistry I

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. In all cases, students should consult with a counselor for more information on university admission and transfer requirements. Students must fulfill the following major requirements with grades of "C" or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth pattern; or Intersegmental General Education Transfer Curriculum (IGETC).

REQUIRED COURSES:

UNITS

PHYS 205 Principles of Physics: Mechanics AND	
PHYS 205L Principles of Physics Laboratory: Mechanics	5
PHYS 210 Principles of Physics: Electricity and Magnetism AND	
PHYS 210L Principles of Physics Laboratory: Electricity and Magnetism.	4
PHYS 215 Principles of Physics: Heat, Waves and Modern Physics AND	
PHYS 215L Principles of Physics Laboratory: Heat, Waves and Modern Physics.	4

PLUS 12-14 UNITS FROM:

MATH 30 Analytical Geometry and Calculus I	4
MATH 31 Analytical Geometry and Calculus II.	4
MATH 32 Analytical Geometry and Calculus III	4
MATH 33 Differential Equations and Linear Algebra.	6

TOTAL UNITS REQUIRED: 25-27

Recommended Electives: CHEM 1B, 5; ENGR 17, 17L, 35, 45; CIS 50, 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 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. See Independent Study page in catalog. (CSU, UC-with unit limitation)

PHYS 105 GENERAL PHYSICS I

Formerly known as PHYS 2A (PHYS 105 and 105L, combined)

Units: 4

Prerequisite: Completion of MATH 8 or high school trigonometry with grade of "C" or better

Corequisite: Concurrent enrollment in PHYS 105L

Advisory: Eligibility for ENGL 11 strongly recommended

Hours: 72 lecture

Noncalculus introduction to the principles of mechanics, properties of matter and heat. Emphasis on applications relevant to several majors, including premedical, pre dental, optometry, forestry, architecture and biological science. (combined with PHYS 105L, C-ID PHYS 105) (CSU, UC-with unit limitation)

PHYS 105L GENERAL PHYSICS I LABORATORY

Formerly known as PHYS 2A (PHYS 105 and 105L, combined)

Units: 1

Prerequisite: Completion of MATH 8 or high school trigonometry with grade of "C" or better

Corequisite: Concurrent enrollment in PHYS 105

Advisory: Eligibility for ENGL 11 strongly recommended

Hours: 54 laboratory

Laboratory portion of PHYS 105. Noncalculus introduction to the principles of mechanics, properties of matter and heat. Emphasis on applications relevant to several majors, including premedical, pre dental, optometry, forestry, architecture and biological science. (combined with PHYS 105, C-ID PHYS 105) (CSU, UC-with unit limitation)

PHYS 110 GENERAL PHYSICS II

Formerly known as PHYS 2B (PHYS 110 and 110L, combined)

Units: 3

Prerequisite: Completion of PHYS 105 and 105L with grades of "C" or better

Corequisite: Concurrent enrollment in PHYS 110L

Hours: 54 lecture

Noncalculus introduction to the principles of waves, sound, light, electricity, magnetism and modern physics. Emphasis on applications relevant to several majors, including premedical, pre dental, optometry, forestry, architecture and biological science. (combined with PHYS 110L, C-ID PHYS 110) (CSU, UC-with unit limitation)

PHYS 110L GENERAL PHYSICS II LABORATORY

Formerly known as PHYS 2B (PHYS 110 and 110L, combined)

Units: 1

Prerequisite: Completion of PHYS 105 and 105L with grades of "C" or better

Corequisite: Concurrent enrollment in PHYS 110

Hours: 54 laboratory

Laboratory portion of PHYS 110. Noncalculus introduction to the principles of waves, sound, light, electricity, magnetism and modern physics. Emphasis on applications relevant to several majors, including premedical, pre dental, optometry, forestry, architecture and biological science. (combined with PHYS 110, C-ID PHYS 110) (CSU-with unit limitation)

PHYS 110R PROBLEM SOLVING FOR PHYSICS 110

Formerly known as *PHYS 2Y*

Units: 1

Corequisite: Concurrent enrollment in *PHYS 110*

Hours: 18 lecture

Optional problem solving course to accompany *PHYS 110*.

Includes sound, light, electricity, magnetism and modern physics. (CSU, UC-with unit limitation)

PHYS 205 PRINCIPLES OF PHYSICS: MECHANICS

Formerly known as *PHYS 4A (PHYS 205 and 205L, combined)*

Units: 4

Prerequisite: Completion of *MATH 30 and 31* with grades of "C" or better (*MATH 31* may be taken concurrently); AND *PHYS A* or *PHYS 105 and 105L*, or high school physics with grade(s) of "C" or better

Corequisite: Concurrent enrollment in *PHYS 205L*

Advisory: Eligibility for *ENGL 11* strongly recommended

Hours: 72 lecture

Calculus-based introduction to the principles of kinematics, dynamics, energy, momentum, rotational motion, gravitation and fluids. The *Physics 205/210/215* sequence presents the general principles and analytical methods used in physics for physical science and engineering majors. (combined with *PHYS 205L*, C-ID *PHYS 205*) (CSU, UC-with unit limitation)

PHYS 205L PRINCIPLES OF PHYSICS LABORATORY: MECHANICS

Formerly known as *PHYS 4A (PHYS 205 and 205L, combined)*

Units: 1

Prerequisite: Completion of *MATH 30 and 31* with grades of "C" or better (*MATH 31* may be taken concurrently); AND *PHYS A*, *PHYS 105 and 105L*, or high school physics with grade(s) of "C" or better

Corequisite: Concurrent enrollment in *PHYS 205*

Advisory: Eligibility for *ENGL 11* strongly recommended

Hours: 54 laboratory

Laboratory portion of *PHYS 205*. Calculus-based introduction to the principles of kinematics, dynamics, energy, momentum, rotational motion, gravitation and fluids. The *Physics 205/210/215* sequence presents the general principles and analytical methods used in physics for physical science and engineering majors. (combined with *PHYS 205*, C-ID *PHYS 205*) (CSU, UC-with unit limitation)

PHYS 210 PRINCIPLES OF PHYSICS: ELECTRICITY AND MAGNETISM

Formerly known as *PHYS 4B (PHYS 210 and 210L, combined)*

Units: 3

Prerequisite: Completion of *PHYS 205*, *PHYS 205L* and *MATH 31* with grades of "C" or better

Corequisite: Concurrent enrollment in *PHYS 210L*

Advisory: Eligibility for *ENGL 11* strongly recommended

Hours: 54 lecture

Electrostatics, AC and DC circuits, magnetism, Maxwell's Equations, electromagnetic waves and the electric and magnetic properties of matter. The 205-210-215 sequence presents general principles and analytical methods used in physics for physical science and engineering majors. (combined with *PHYS 210L*, C-ID *PHYS 210*) (CSU, UC-with unit limitation)

PHYS 210L PRINCIPLES OF PHYSICS LABORATORY: ELECTRICITY AND MAGNETISM

Formerly known as *PHYS 4B (PHYS 210 and 210L, combined)*

Units: 1

Prerequisite: Completion of *PHYS 205*, *PHYS 205L* and *MATH 31* with grades of "C" or better

Corequisite: Concurrent enrollment in *PHYS 210*

Advisory: Eligibility for *ENGL 11* strongly recommended

Hours: 54 laboratory

Laboratory portion of *PHYS 210*. Electrostatics, AC and DC circuits, magnetism, Maxwell's Equations, electromagnetic waves and the electric and magnetic properties of matter. The 205-210-215 sequence presents general principles and analytical methods used in physics for physical science and engineering majors. (combined with *PHYS 210*, C-ID *PHYS 210*) (CSU, UC-with unit limitation)

PHYS 210R PROBLEM SOLVING FOR PHYSICS 210

Formerly known as *PHYS 4Y*

Units: 1

Corequisite: Concurrent enrollment in *PHYS 210*

Hours: 18 lecture

Optional problem solving course to accompany *PHYS 210*.

Includes electric forces and fields, electrical potential, capacitors and dielectrics, magnetism, electromagnetic waves and DC and AC circuits. (CSU, UC-with unit limitation)

PHYS 215 PRINCIPLES OF PHYSICS: HEAT, WAVES AND MODERN PHYSICS

Formerly known as PHYS 4C (PHYS 215 and 215L, combined)

Units: 3

Prerequisite: Completion of PHYS 205, PHYS 205L and MATH 31 with grades of "C" or better

Corequisite: Concurrent enrollment in PHYS 215L

Advisory: Eligibility for ENGL 11 strongly recommended

Hours: 54 lecture

Thermodynamics, kinetic theory of gases, waves, geometrical and physical optics, sound and modern physics. The 205-210-215 sequence presents general principles and analytical methods used in physics for physical science and engineering majors. (combined with PHYS 215L, C-ID PHYS 215) (CSU, UC-with unit limitation)

PHYS 215L PRINCIPLES OF PHYSICS LABORATORY: HEAT, WAVES AND MODERN PHYSICS

Formerly known as PHYS 4C (PHYS 215 and 215L, combined)

Units: 1

Prerequisite: Completion of PHYS 205, PHYS 205L and MATH 31 with grades of "C" or better

Corequisite: Concurrent enrollment in PHYS 215

Advisory: Eligibility for ENGL 11 strongly recommended

Hours: 54 laboratory

Laboratory portion of PHYS 215. Covers topics of thermodynamics, kinetic theory of gases, waves, geometrical and physical optics, sound and modern physics. (combined with PHYS 215, C-ID PHYS 215) (CSU, UC-with unit limitation)

PHYS 215R PROBLEM SOLVING FOR PHYSICS 215

Formerly known as PHYS 4Z

Units: 1

Corequisite: Concurrent enrollment in PHYS 215

Hours: 18 lecture

Optional problem solving course to accompany PHYS 215. Includes thermodynamics, mechanical waves, optics and modern physics. (CSU, UC-with unit limitation)



POLITICAL SCIENCE

LIBERAL ARTS

DEAN: Rebecca Bocchicchio

ASSOCIATE DEANS: Anne Fleischmann, Susan Lucyga

DIVISION OFFICE: W 107

FACULTY: M. Deaver, W. Jackson

LIAISON COUNSELOR: E. Farrelly

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 FOR TRANSFER AA-T DEGREE

By completing this degree, students will learn about the operation of political authority at the local, national and international levels. Besides studying American political institutions, students will examine other governments, their civil societies, policy issues and decision making. In addition, appreciation will be gained for the growing role of international actors and importance of global issues. Helping to make sense of it all, students will learn scientific methods and theories.

The Associate in Arts in Political Science for Transfer degree (AA-T) prepares students to transfer into the CSU system to complete a bachelor's degree in Political Science or a major deemed similar by a CSU campus. Students earning an associate degree for transfer and meeting the CSU minimum transfer admission requirements are guaranteed admission with junior standing to the CSU system, but not to a particular campus or major. Upon transfer, students will be required to complete no more than 60 additional prescribed units to earn a bachelor's degree.

To earn the Associate in Arts in Political Science for Transfer degree, students must complete 60 CSU-transferable semester units with a minimum grade point average of 2.0, including both of the following:

- completion of all courses required for the major with grades of "C" or better; and
- completion of the California State University General Education Breadth (CSU GE) pattern or the Intersegmental General Education Transfer Curriculum (IGETC) pattern.

It is highly recommended that, prior to transferring, students complete courses that satisfy the CSU United States History, Constitution and American Ideals graduation requirement. In all cases, students

should consult with a counselor for more information on university admission and transfer requirements.

REQUIRED COURSES:	UNITS
POLS 1 American Government	3
POLS 2 Comparative Government	3
POLS 3 International Relations	3
POLS 16 Introduction to Political Theory	3

PLUS 6 UNITS FROM:

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 27 Women and Politics in a Global Society	3

TOTAL UNITS REQUIRED: 18

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. (C-ID POLS 110) (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)



PSYCHOLOGY

POLS 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)

POLS 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. See Independent Study page in catalog. (CSU, UC-with unit limitation)

POLS 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)

LIBERAL ARTS

DEAN: Rebecca Bocchicchio

ASSOCIATE DEANS: Anne Fleischmann, Susan Lucyga

DIVISION OFFICE: W 107

FACULTY: S. Coday, B. Elder, R. Lennartz, J. Soles, K. Taylor, S. Verma, D. Yoshizumi

LIAISON COUNSELORS: C. Axton, 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 FOR TRANSFER

AA-T DEGREE

Psychology is defined as the scientific study of behavior. The degree program allows students to utilize research methods; evaluate the credibility of research, theories and applications; understand the core fields, paradigms and theories; apply psychological concepts, theoretical perspectives, empirical findings and historical trends to questions and issues in personal experience and contemporary society; and understand the ethical standards in academic and applied psychology.

The Associate in Arts in Psychology for Transfer degree (AA-T) prepares students to transfer into the CSU system to complete a bachelor's degree in Psychology or a major deemed similar by a CSU campus. Students earning an associate degree for transfer and meeting the CSU minimum transfer admission requirements are guaranteed admission with junior standing to the CSU system, but not to a particular campus or major. Upon transfer, students will be required to complete no more than 60 additional prescribed units to earn a bachelor's degree.

To earn the Associate in Arts in Psychology for Transfer degree, students must complete 60 CSU-transferable semester units with a minimum grade point average of 2.0, including both of the following:

- completion of all courses required for the major with grades of "C" or better; and
- completion of the California State University General Education Breadth (CSU GE) pattern or the Intersegmental General Education Transfer Curriculum (IGETC) pattern.

It is highly recommended that, prior to transferring, students complete courses that satisfy the CSU United States History, Constitution and American Ideals graduation requirement. In all cases, students should consult with a counselor for more information on university admission and transfer requirements.

REQUIRED COURSES:	UNITS
PSYC 100 General Principles of Psychology	3
PSYC 105 Experimental Psychology	4
PSYC 142 Introduction to Psychological Statistics OR	
MATH 13 Elementary Statistics	3-4

PLUS 4 UNITS FROM:

BIOL 11 Concepts of Biology	4
BIOL 56 Biology: A Human Perspective AND	
BIOL 56L Biology: A Human Perspective (Laboratory)	4
PSYC 140 Introduction to Biopsychology AND	
PSYC 140L Biopsychology Laboratory	4

PLUS 3 UNITS FROM:

ENGL 1B Critical Thinking and Writing about Literature	3
PSYC 103 Social Psychology	3
PSYC 104 Developmental Psychology	3
SOC 1 Introduction to Sociology	3

PLUS 3 UNITS FROM THE FOLLOWING OR ANY UNUSED COURSE FROM THE PRECEDING AREA:

PSYC 107 Abnormal Psychology	3
PSYC 127 Psychology of Women	3
PSYC 150 Alcohol, Drugs and Society	3

TOTAL UNITS REQUIRED: 20-21

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 for more information on university admission and transfer requirements. Students must fulfill the following major requirements with grades of "C" or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth pattern; or Intersegmental General Education Transfer Curriculum (IGETC).

REQUIRED COURSES:	UNITS
PSYC 100 General Principles of Psychology	3
PSYC 105 Experimental Psychology	4
PSYC 142 Introduction to Psychological Statistics OR	
MATH 13 Elementary Statistics	3-4

PLUS 9 UNITS FROM:

ANTH 1 Physical Anthropology	3
ANTH 2 Cultural Anthropology	3

BIOL 1 General Biology OR	
BIOL 6 Human Physiology OR	
BIOL 10 Introduction to Biology OR	
BIOL 11 Concepts of Biology OR	
BIOL 56 Biology: A Human Perspective	3-5
PSYC 103 Social Psychology	3
PSYC 104 Developmental Psychology	3
PSYC 107 Abnormal Psychology	3
PSYC 140 Introduction to Biopsychology	3
PSYC 140L Biopsychology Laboratory	1
PSYC 106 Psychology of Adjustment OR	
PSYC 127 Psychology of Women OR	
PSYC 130 Human Sexuality OR	
PSYC 160 Psychology and Film OR	
PSYC 170 Environmental Psychology	3

TOTAL UNITS REQUIRED: 19-20

PSYCHOLOGY COURSES »

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. See Independent Study page in catalog. (CSU, UC-with unit limitation)

PSYC 100 GENERAL PRINCIPLES OF PSYCHOLOGY

Units: 3

Hours: 54 lecture

Introduction to the general principles of psychology. Topics include: biopsychology, sensation and perception, consciousness, learning, memory, cognition (thinking and intelligence), motivation, personality, social psychology, developmental psychology, abnormal psychology, research methods, ethics and the impact of diversity on psychological research, theory and application. Selected other topics may include emotion, or stress and health. Required for psychology majors. (C-ID PSY 110) (CSU, UC)

PSYC 103 SOCIAL PSYCHOLOGY

Formerly known as PSYC 3

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. (C-ID PSY 170) (CSU, UC)

PSYC 104 DEVELOPMENTAL PSYCHOLOGY

Formerly known as PSYC 4

Units: 3

Advisory: Completion of PSYC 100 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 105 EXPERIMENTAL PSYCHOLOGY

Formerly known as PSYC 5

Units: 4

Prerequisite: Completion of PSYC 100 with grade of "C" or better; completion of PSYC 142 or MATH 13 with grade of "C" or better

Advisory: Completion of ENGL 1A with grade of "C" or better

Hours: 108 (54 lecture, 54 laboratory)

Introduction to research methodology, experimental design and hypothesis testing in the behavioral sciences. Includes the execution, analysis (with statistical software), interpretation and reporting of individual research projects. (C-ID PSY 205B) (CSU, UC)

PSYC 106 PSYCHOLOGY OF ADJUSTMENT

Formerly known as PSYC 6

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 107 ABNORMAL PSYCHOLOGY

Formerly known as PSYC 7

Units: 3

Advisory: Completion of PSYC 100 with grade of "C" or better;

Eligibility for ENGL 1A and ENGL 11

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 research methods, schizophrenia, anxiety-related disorders, mood disorders, personality disorders, eating disorders, substance-related disorders, sexual disorders and conflicting "models of madness." (C-ID PSY 120) (CSU, UC)

PSYC 108 PSYCHOLOGY OF DEATH AND DYING

Formerly known as PSYC 8

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 110 PSYCHOLOGY OF MARRIAGE AND FAMILY

Formerly known as PSYC 10

Also known as HDEV 21

Units: 3

Hours: 54 lecture

Study of the meaning and functions of intimacy, marriage and family. Consideration given to the nature of commitments, sexuality, alternative relationships, communication, conflict resolution, economics, parenting, crises and marital separation. Recommended for majors in Human Development and Family and for those in human service careers. (CSU, UC)

PSYC 127 PSYCHOLOGY OF WOMEN

Formerly known as PSYC 27

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 130 HUMAN SEXUALITY

Formerly known as PSYC 30

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 140 INTRODUCTION TO BIOPSYCHOLOGY

Formerly known as PSYC 40

Units: 3

Prerequisite: Completion of PSYC 100 with grade of "C" or better

Advisory: Eligibility for ENGL 1A or ESL 40W

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. (C-ID PSY 150) (CSU, UC)

PSYC 140L BIOPSYCHOLOGY LABORATORY

Formerly known as PSYC 40L

Units: 1

Corequisite: Completion with grade of "C" or better or concurrent enrollment in PSYC 140

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 142 INTRODUCTION TO PSYCHOLOGICAL STATISTICS

Formerly known as PSYC 42

Units: 3

Prerequisite: Completion of MATH D with grade of "C" or better 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 150 ALCOHOL, DRUGS AND SOCIETY

Formerly known as PSYC 50

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 160 PSYCHOLOGY AND FILM

Formerly known as PSYC 60

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 vary with each offering. (CSU, UC)

PSYC 170 ENVIRONMENTAL PSYCHOLOGY

Formerly known as PSYC 70

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)

REAL ESTATE

(See Business)



RECREATION MANAGEMENT

HEALTH, PHYSICAL EDUCATION, RECREATION/ATHLETICS

DEAN: Lucas Moosman

DIVISION OFFICE: Ft

FACULTY: D. Brownell, M. Conway, S. Decker, E. Eaton,
H. Eubanks, J. Fusano, J. Gantt, R. Goldenberg, B. Murrish,
V. Nelson, B. Noonan, J. Tisdell, R. Willson

LIAISON COUNSELORS: N. Martinis, T. Times

Recreation Management is designed to explore the skills needed to manage programs and events in a variety of recreational settings that include city parks and recreation programs, state and national parklands, hotels, playgrounds, forests, beaches, health clubs, tourism destinations and non-profit community centers. Career fields in recreation include public service, private recreation, outdoor recreation and leadership positions.

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 completion 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 Administration and Resort and Lodging Management. Career opportunities include positions at recreation centers, corporate wellness programs, hotels, resorts and park and recreation programs. In all cases, students should consult with a counselor for more information on university admission and transfer requirements. Students must fulfill the following major requirements with grades of "C" or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth pattern; or Intersegmental General Education Transfer Curriculum (IGETC).

REQUIRED COURSES:

	UNITS
RECM 10 Foundations of Recreation, Parks and Tourism Management	3
RECM 20 Program Planning and Event Management.	3
RECM 30 Leadership in Recreation, Parks and Tourism Management	3
RECM 40 Leisure Aspects of the Hospitality Industry	3

PLUS 9-11 UNITS FROM:

BIOL 5 Human Anatomy OR	
BIOL 7A Human Anatomy I AND	
BIOL 7B Human Anatomy II	4-5
BIOL 6 Human Physiology.	5

BIOL 11 Concepts of Biology.	4
BUS 1 Financial Accounting I.	3
BUS 2 Financial Accounting II	3
BUS 3 Managerial Accounting.	3
BUS 20 Introduction to Business	3
BUS 48 Business Law.	3
BUS 140 Small Business Management	3
CIS 50 Applying Computer Software OR	
CSCI 10 Introduction to Computing	3
COMM 10 Survey of Communication Studies	3
ECON 1A Principles of Macroeconomics	3
ECON 1B Principles of Microeconomics.	3
ESCI 1 Physical Geology AND	
ESCI 1L Physical Geology Laboratory	4
GEOG 1 Physical Geography	3
PSYC 100 Introduction to Psychology.	3
RECM 95 Internship in Recreation, Parks and Tourism Management	1-4
SOC 1 Introduction to Sociology.	3

TOTAL UNITS REQUIRED: 21-23

RECREATION SPECIALIST

CERTIFICATE OF ACHIEVEMENT

This certificate program provides an enhanced understanding of the basic service industry skills necessary for successful employment in the recreation, parks, tourism and hospitality industry. This program is designed to meet the needs of students interested in seeking entry-level employment in a wide range of positions within the industry. Career opportunities include: recreation attendant, program coordinator, event planner, recreation program leader, pool manager, sports official (umpire and referee), ski resort worker, camp counselor, theme park attendant, tour guide, golf course employee and other related occupations. A certificate is designed to provide career technical skills; it is not equivalent to an associate degree.

REQUIRED COURSES:

	UNITS
HED 1 Standard First Aid/Community CPR	3
RECM 10 Foundations of Recreation, Parks and Tourism Management	3
RECM 20 Program Planning and Event Management.	3
RECM 30 Leadership in Recreation, Parks and Tourism Management	3
RECM 40 Leisure Aspects of the Hospitality Industry	3
RECM 95 Internship in Recreation, Parks and Tourism Management	1

PLUS 3 UNITS FROM:

BUS 85 Introduction to Oral Communication	3
COMM 3 Group Communication	3
COMM 7 Intercultural Communication	3
COMM 8 Interpersonal Communication	3

PLUS 3 UNITS FROM:

BUS 20 Introduction to Business	3
BUS 64 Business Mathematics	3
BUS 120 Introduction to Marketing	3

PLUS 2-4 UNITS FROM:

PHED 42 Water Safety Instructor/Instructor Candidate Training	2
RECM 50 Avalanche Safety I	4
RECM 51 Avalanche Safety II	2
RECM 70 Backpacking	2
RECM 71 Rock Climbing	2
RECM 72 Wilderness Survival	2

TOTAL UNITS REQUIRED: 24-26

RECREATION MANAGEMENT COURSES »

RECM 10 FOUNDATIONS OF RECREATION, PARKS AND TOURISM MANAGEMENT

Units: 3

Hours: 54 lecture

A foundational course focusing on the history, nature, scope and social aspects of leisure services in Western and international cultures. Includes philosophical and ethical issues as well as exploration of possible 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 applicable to a variety of public and private agencies. Addresses programs that serve different age groups, interests and needs within a range of environments. Leadership for both professionals and volunteers presented in terms of their relationship to the human services field. (CSU)

RECM 30 LEADERSHIP IN RECREATION, PARKS AND TOURISM MANAGEMENT

Units: 3

Hours: 54 lecture

Leadership of recreation activities with emphasis on the social 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 hospitality industry; food and lodging, resorts, tourism enterprises, attractions and related operations. Focus on orientation on customer service, cultural/economic trends and career opportunities. (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. (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. (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. (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. (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. (CSU)

RECM 95 INTERNSHIP IN RECREATION, PARKS AND TOURISM 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

LIBRARY/LEARNING RESOURCE CENTER

DEAN: Sabrina Pape

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.

SKILL DEVELOPMENT COURSES »

SKDV 1 TECHNIQUES OF TUTORING

Formerly known as SKDV 21A

Units: 1

Advisory: Eligibility for ENGL 1A and ENGL 11

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

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, study habits, goal setting and motivational techniques; the importance of fostering online community; use of emerging technologies including wikis, blogs and VoiceThreads; 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. See Independent Study page in catalog. (CSU)

SKDV 801 SUPERVISED TUTORING

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)



SOCIAL SCIENCE

LIBERAL ARTS

DEAN: Rebecca Bocchicchio

ASSOCIATE DEANS: Anne Fleischmann, Susan Lucyga

DIVISION OFFICE: W 107

FACULTY: S. McDonald

LIAISON COUNSELORS: N. Martinis, Rebecca Ortega

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 degrees 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 more information on university admission and transfer requirements. Students must fulfill the following major requirements with grades of "C" or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth pattern; or Intersegmental General Education Transfer Curriculum (IGETC).

REQUIRED COURSES

9-10 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 Anthropology of Sex, Gender and Sexuality	3
COMM 3 Group Communication	3
COMM 5 Communication Experience	3
COMM 7 Intercultural Communication	3
COMM 8 Interpersonal Communication	3
COMM 70 Mass Communication: 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
HUM 3 Introduction to Asian Humanities	3
NUTF 10 Principles of Nutrition.	3
PSYC 100 Introduction to Psychology.	3
PSYC 103 Social Psychology	3
PSYC 104 Developmental Psychology	3
PSYC 105 Experimental Psychology	4
PSYC 106 Psychology of Adjustment	3
PSYC 108 Psychology of Death and Dying.	3
PSYC 110 Psychology of Marriage and Family (also HDEV 21)	3
PSYC 127 Psychology of Women	3
PSYC 130 Human Sexuality	3
PSYC 150 Alcohol, Drugs and Society.	3
PSYC 160 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

PLUS 9 UNITS FROM THE FOLLOWING SOCIAL SCIENCES:

ADMJ 50 Introduction to Administration of Justice.	3
AGRI 198 Food, Society and the Environment.	3
AGRI 215 Introduction to Agricultural Business and Economics	3
BUS 49 Law and Society	3
ECON 1A Principles of Macroeconomics	3
ECON 1B Principles of Microeconomics.	3
ESS 1 The Environment and the Human Impact.	3
GEOG 2 Cultural Geography	3
GEOG 3 Geography of California.	3
GEOG 5 World Regional Geography.	3
HIST 4A Western Civilization to 1715	3
HIST 4B Western Civilization since 1715	3
HIST 17A History of the United States to 1877	3
HIST 17B History of the United States since 1865	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 50 World History to 1500	3

HIST 51 World History since 1500.	3
POLS 1 American Government	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 35 Immigrants and Refugees in America: The European Experience.	3
SSCI 50 Ethnic Images in Film.	3
WMST 1 Introduction to Women's Studies.	3

TOTAL UNITS REQUIRED: 18-19

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

Introduces students to a variety of contemporary topics through guest lectures and discussions. Explores the rich diversity of people, cultures and opportunities within America, emphasizing theoretical and practical understanding of diversity. Employing a wide range of interdisciplinary social and behavioral science perspectives. 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 the study of 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 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. Field trips may be required. (CSU, UC)

SSCI 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. 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-1800's 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. Field trips may be required. (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 a comparative overview of pre-immigration, immigration and post-immigration experiences of the people from these groups to the United States. (CSU, UC)

SSCI 50 ETHNIC IMAGES IN FILM

Units: 3

Hours: 54 lecture

Interdisciplinary approach to study ethnic culture, race, socioeconomic class and gender 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 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 known 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: Rebecca Bocchicchio

ASSOCIATE DEANS: Anne Fleischmann, Susan Lucyga

DIVISION OFFICE: W 107

FACULTY: J. Kattman, M. Seely

LIAISON COUNSELORS: M. Braga, Rebecca Ortega

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 FOR TRANSFER AA-T DEGREE

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.

The Associate in Arts in Sociology for Transfer degree (AA-T) prepares students to transfer into the CSU system to complete a bachelor's degree in Sociology or a major deemed similar by a CSU campus. Students earning an associate degree for transfer and meeting the CSU minimum transfer admission requirements are guaranteed admission with junior standing to the CSU system, but not to a particular campus or major. Upon transfer, students will be required to complete no more than 60 additional prescribed units to earn a bachelor's degree.

To earn the Associate in Arts in Sociology for Transfer degree, students must complete 60 CSU-transferable semester units with a minimum grade point average of 2.0, including both of the following:

- completion of all courses required for the major with grades of "C" or better; and
- completion of the California State University General Education Breadth (CSU GE) pattern or the Intersegmental General Education Transfer Curriculum (IGETC) pattern.

It is highly recommended that, prior to transferring, students complete courses that satisfy the CSU United States History, Constitution

and American Ideals graduation requirement. In all cases, students should consult with a counselor for more information on university admission and transfer requirements.

REQUIRED COURSES: **UNITS**

SOC 1 Introduction to Sociology	3
SOC 2 Social Problems.	3
SOC 15 Introduction to Statistics in Sociology.	3

PLUS 6 UNITS FROM:

SOC 3 Race, Ethnicity and Inequality	3
SOC 20 Introduction to Research Methods	3
SOC 27 Sociology of Gender	3

PLUS 3 UNITS FROM THE FOLLOWING OR UNUSED COURSE FROM THE PRECEDING AREA:

SOC 4 The Family (also HDEV 22)	3
SOC 5 Sociology of Women’s Health	3
SOC 10 Feminism and Social Action (also WMST 4).	3
SOC 24 Introduction to Sociology of Sport	3
SOC 95 Internship in Sociology.	3

TOTAL UNITS REQUIRED: 18

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. (C-ID SOCI 110) (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. (C-ID SOCI 115) (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. (C-ID SOCI 150) (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. (C-ID SOCI 130) (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 15 INTRODUCTION TO STATISTICS IN SOCIOLOGY

Units: 3

Prerequisite: Two years of high school algebra or MATH D with grade(s) of “C” or better, or placement by matriculation assessment process

Advisory: Completion of or concurrent enrollment in SOC 1

Hours: 54 lecture

Application of statistical methods to sociological data. Topics include: descriptive and inferential statistics including levels and types of measurement; measures of central tendency and dispersion; normal, t and chi-square distributions, probability and hypothesis testing, correlation and regression. Statistical software will be applied to sociology and/or other social science data. (C-ID SOCI 125) (CSU, UC)

SOC 20 INTRODUCTION TO RESEARCH METHODS

Units: 3

Prerequisite: Completion of SOC 1 and SOC 15 with grades of "C" or better

Hours: 72 (54 lecture, 18 laboratory)

Students examine fundamental elements of empirical research and the ways sociologists think critically. Includes attention to the nature of theory, hypotheses, variables and ethics of research. Application of qualitative and quantitative analytic tools including logic and research design, such as survey, observational, experimental, case study and comparative historical research. Computer applications are utilized to analyze data. (C-ID SOCI 120) (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 27 SOCIOLOGY OF GENDER

Units: 3

Hours: 54 lecture

A cross-cultural comparison of gender roles, gender identities and sexualities viewed from sociological perspectives. Examines the social construction of masculinity and femininity and the debates on sex and gender. Analyzes the impact of social, cultural and political factors on gender expectations and practices. (C-ID SOCI 140) (CSU, UC)

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. See Independent Study page in catalog. (CSU, UC-with unit limitation)

SOC 95 INTERNSHIP IN SOCIOLOGY

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)

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)

SOC 301 ACHIEVING EQUITY IN HIGHER ED: CALIFORNIA COMMUNITY COLLEGES

Units: 3

Hours: 54 lecture

A sociological approach to the study of equity within community colleges, with focus on California community colleges, including the various policies and strategies to achieve equity. Utilizes the critical approach when evaluating and applying policies and strategies to achieve equity. In addition to regular class meetings, students are required to participate in a minimum of 2 hours/week of assigned activities including, but not limited to, attending meetings on campus, field trips and volunteering in campus organizations or centers. (CSU)



SPANISH

LIBERAL ARTS

DEAN: Rebecca Bocchicchio
 ASSOCIATE DEANS: Anne Fleischmann, Susan Lucyga
 DIVISION OFFICE: W 107
 FACULTY: S. Casler, M. Kelly, C. Sabin
 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 knowledge of foreign languages and cultures. In the most recent census of California, 43.5% of our population speaks a language other than English at home; U.S. census projections show the Hispanic community growing across the nation. For this reason, students will benefit from learning Spanish in preparation for any career. The acquisition of desired practical communication skills is the primary objective of the Spanish program at Sierra College. Courses are organized around grammatical themes imbedded in cultural topics, requiring critical thinking, analysis and practical application. Instruction in the Communicative Method integrates the five key learning objectives of Speaking, Listening, Reading, Writing and Cultural Competence.

CAREER OPPORTUNITIES IN SPANISH

Bilingual: teacher, professor, transcriber, sales representative, customer service representative, web publisher, medical/health worker, realtor, IRS/franchise tax board worker, social services case worker, community outreach specialist, human resources specialist;

Business: international relations consultant, international business personnel, foreign exchange trader, publishing specialist, foreign correspondent, foreign publications/textbook editor, research assistant, importer/exporter, translator/interpreter, international account manager, international banking officer, airline personnel, public relations officer;

Culture/Tourism: cultural events coordinator, travel agent, translator/interpreter, guide;

Government: national security agent, immigration officer, court interpreter, UNESCO official, Peace Corps employee, translator/interpreter, FBI agent, foreign diplomat missionary, foreign service officer.

SPANISH FOR TRANSFER AA-T DEGREE

This Associate in Arts in Spanish for Transfer (AA-T) degree provides a comprehensive foundation in the Spanish language. The degree ensures the development of listening, reading, writing and speaking skills; examining important contributions to Spanish language literature; examining new ideas from the Spanish speaking world; and cultivating an openness to new ideas and an informed appreciation of Spanish speaking cultures.

The Associate in Arts in Spanish for Transfer degree (AA-T) prepares students to transfer into the CSU system to complete a bachelor's degree in Spanish or a major deemed similar by a CSU

campus. Students earning an associate degree for transfer and meeting the CSU minimum transfer admission requirements are guaranteed admission with junior standing to the CSU system, but not to a particular campus or major. Upon transfer, students will be required to complete no more than 60 additional prescribed units to earn a bachelor's degree.

To earn the Associate in Arts in Spanish for Transfer degree, students must complete 60 CSU-transferable semester units with a minimum grade point average of 2.0, including both of the following:

- completion of all courses required for the major with grades of "C" or better; and
- completion of the California State University General Education Breadth (CSU GE) pattern or the Intersegmental General Education Transfer Curriculum (IGETC) pattern.

It is highly recommended that, prior to transferring, students complete courses that satisfy the CSU United States History, Constitution and American Ideals graduation requirement. In all cases, students should consult with a counselor for more information on university admission and transfer requirements.

REQUIRED COURSES:	UNITS
SPAN 1 Elementary Spanish—Level I	5
SPAN 2 Elementary Spanish—Level II	5
SPAN 3 Intermediate Spanish—Level I	4
SPAN 4 Intermediate Spanish—Level II	4
SPAN 17 Intermediate Conversational Spanish	3

TOTAL UNITS REQUIRED: 21

NOTE: Students entering the Spanish program at SPAN 2 or higher are required to satisfy the specified unit requirements of the degree. Students must consult with the Spanish Department Chair for approval of appropriate course substitutions.

SPANISH COURSES »

SPAN 1 ELEMENTARY SPANISH—LEVEL I

Units: 5

Advisory: Eligibility for ENGL 1A

Hours: 90 lecture

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—LEVEL II

Units: 4—F'14; 5—Sp'15

Prerequisite: Completion of SPAN 1 or two years of high school Spanish with grade(s) of "C" or better

Hours: 72 lecture—F'14; 90 lecture—Sp'15

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—LEVEL I

Units: 4

Prerequisite: Completion of SPAN 2 or three years of high school Spanish with grade(s) of "C" or better

Hours: 72 lecture

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. (C-ID SPAN 200) (CSU, UC)

SPAN 4 INTERMEDIATE SPANISH—LEVEL II

Units: 4

Prerequisite: Completion of SPAN 3 or four years of high school Spanish with grade(s) of "C" or better

Hours: 72 lecture

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. (C-ID SPAN 210) (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 of SPAN 15, SPAN 1, or two years of high school Spanish with grade(s) of "C" or better

Hours: 54 lecture

Second semester of Conversational Spanish. Develops increasingly complex language abilities through new vocabulary and more advanced grammatical structures. Emphasizing oral communication, students are introduced to vocabulary, cultural customs and elementary grammatical, reading and writing skills. (CSU)

SPAN 17 INTERMEDIATE CONVERSATIONAL SPANISH

Units: 3

Prerequisite: Completion of SPAN 16, SPAN 2, or three years of high school Spanish with grade(s) of "C" or better

Hours: 54 lecture

Intermediate Conversational Spanish. Develops increasingly complex language abilities through new vocabulary and more advanced grammatical structures. Emphasizes oral communication, grammatical, reading and writing skills at the intermediate level and further explores cultural customs. (CSU, UC)

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. 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)



WELDING TECHNOLOGY

LIBERAL ARTS

DEAN: Rebecca Bocchicchio
 ASSOCIATE DEANS: Anne Fleischmann, Susan Lucyga
 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 the following major requirements with grades of "C" or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth pattern; or Intersegmental General Education Transfer Curriculum (IGETC).

REQUIRED COURSES:

UNITS

WELD 20 Introduction to Welding Technology—Career Path	3
WELD 25 Intermediate Welding Technology—Career Path	3
WELD 30 Advanced Shielded Metal Arc Welding of Structural Plate and Pipe	3
WELD 40 Wire Feed Welding Processes—Career Path	2
WELD 50 Gas Tungsten Arc Welding (TIG)—Career Path	3
WELD 60 Welding Metallurgy	3
WELD 70 Principles of Fabrication	2.5
WELD 80 Structural Steel Welding Certification OR WELD 82 Pipe Welding Certification—Uphill	1-1.5

PLUS 4-6 UNITS FROM:

WELD 10 Exploring Metals/Introduction to Gas Welding	2
WELD 15 Introductory Welding for Metalworking	2
WELD 83 Pipe Welding Certification—Downhill . . . . .	.5

WELD 95 Internship in Welding Technology . . . . .	.5-4
DES 1 Technical Drafting I	3
DES 2 Technical Drafting II	3
TOTAL UNITS REQUIRED: 24.5-27	

WELDING

CERTIFICATE OF ACHIEVEMENT

Successful completion of the curriculum in Welding provides students with employable skills in commercial and industrial welding processes. Completion of the certificate requirements prepares students for State Certification tests. Testing and Certification is offered. A certificate is designed to provide career technical skills; it is not equivalent to an associate degree.

REQUIRED COURSES:

UNITS

WELD 20 Introduction to Welding Technology—Career Path	3
WELD 25 Intermediate Welding Technology—Career Path	3
WELD 30 Advanced Shielded Metal Arc Welding of Structural Plate and Pipe	3
WELD 40 Wire Feed Welding Processes—Career Path	2
WELD 50 Gas Tungsten Arc Welding (TIG)—Career Path	3
WELD 60 Welding Metallurgy	3
WELD 80 Structural Steel Welding Certification OR WELD 82 Pipe Welding Certification—Uphill	1-1.5
MATH A Elementary Algebra OR more advanced mathematics course	3-5

PLUS 5-6.5 UNITS FROM:

WELD 10 Exploring Metals/Introduction to Gas Welding	2
WELD 15 Introductory Welding for Metalworking	2
WELD 28 Independent Study	3
WELD 83 Pipe Welding Certification—Downhill . . . . .	.5
WELD 95 Internship in Welding Technology	3-4
ART 22 Creative Design in Metal	3
DES 1 Technical Drafting I	3
DES 2 Technical Drafting II	3

TOTAL UNITS REQUIRED: 26-30

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:	UNITS
WELD 10 Exploring Metals/Introduction to Gas Welding	2
WELD 15 Introductory Welding for Metalworking	2
WELD 20 Introduction to Welding Technology—Career Path	3
WELD 40 Wire Feed Welding Processes—Career Path.	2
TOTAL UNITS REQUIRED: 9	

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 knowledge for the industry and artistic application of GTAW. 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 Gas Welding	2
WELD 15 Introductory Welding for Metalworking	2
WELD 20 Introduction to Welding Technology—Career Path	3
WELD 50 Gas Tungsten Arc Welding (TIG)—Career Path.	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 Gas Welding	2
WELD 20 Introduction to Welding Technology—Career Path	3
WELD 30 Advanced Shielded Metal Arc Welding of Structural Plate and Pipe	3
WELD 40 Wire Feed Welding Processes—Career Path.	2
WELD 70 Principles of Fabrication	2.5
ART 22 Creative Design in Metal.	3
TOTAL UNITS REQUIRED: 15.5	

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 Gas Welding	2
WELD 20 Introduction to Welding Technology—Career Path	3
WELD 25 Intermediate Welding Technology—Career Path	3
WELD 30 Advanced Shielded Metal Arc Welding of Structural Plate and Pipe.	3
WELD 80 Structural Steel Welding Certification OR	
WELD 82 Pipe Welding Certification—Uphill	1-1.5
WELD 83 Pipe Welding Certification—Downhill. . . . .	.5
TOTAL UNITS REQUIRED: 12.5-13	

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 Gas Welding	2
WELD 20 Introduction to Welding Technology–Career Path	3
WELD 70 Principles of Fabrication	2.5

TOTAL UNITS REQUIRED: 13.5

WELDING TECHNOLOGY COURSES »

WELD 10 EXPLORING METALS/INTRODUCTION TO GAS WELDING

Units: 2

Hours: 72 (18 lecture, 54 laboratory)

History and development of joining metals, metalworking and welding methods. Modern welding and fabrication techniques. Proper and safe use of modern metal fabrication equipment and hands-on experience with Oxy-Acetylene (Gas) welding based on an assigned student project. (CSU)

WELD 15 INTRODUCTORY WELDING FOR METALWORKING

Units: 2

Advisory: Completion with grade of “C” or better or concurrent enrollment in WELD 10

Hours: 72 (18 lecture, 54 laboratory)

Focuses on the three common metal working processes of Stick, MIG and TIG welding, including correct setup and “how to” techniques. Plasma arc cutting and Oxy-fuel cutting processes also covered. Designed for both students interested in the metal art field as a companion to ART 22 and for students wishing to pursue a career in welding by continuing on to WELD 20. (CSU)

WELD 20 INTRODUCTION TO WELDING TECHNOLOGY—CAREER PATH

Units: 3

Prerequisite: Completion of WELD 10 or 15 with grade of “C” or better

Hours: 90 (36 lecture, 54 laboratory)

Theory, techniques and practice in position welding of Shielded Metal Arc, Gas Metal Arc and Oxyacetylene welding. Plasma and Flame Cutting are also employed. Intended as a foundation welding technology course for students on the welding career path. (not transferable)

WELD 25 INTERMEDIATE WELDING TECHNOLOGY—CAREER PATH

Units: 3

Prerequisite: Completion with grade of “C” or better, or concurrent enrollment in WELD 20

Hours: 90 (36 lecture, 54 laboratory)

Emphasis on position welding techniques in Shielded Metal Arc (SMAW) and Oxy-Acetylene welding (OAW). Flux Core Arc (FCAW), Oxy-fuel flame Cutting (OFC) and Air Carbon Arc Cutting (CAC-C) are also performed. Intended as an intermediate level welding course for students following a career path in the welding field. Students who have taken WELD 30 are advised not to enroll in WELD 25. (not transferable)

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 might include, but is not limited to, research papers, special subject area projects and research projects. See Independent Study page in catalog. (CSU)

WELD 30 ADVANCED SHIELDED METAL ARC WELDING OF STRUCTURAL PLATE AND PIPE

Units: 3

Prerequisite: Completion of WELD 20 with grade of “C” or better
Advisory: Completion with grade of “C” or better or concurrent enrollment in WELD 25

Hours: 90 (36 lecture, 54 laboratory)

Advanced course on welding of structural plate and pipe using accepted practices of industry with Shielded Metal Arc (Stick) Process. Emphasis on the welding techniques used for out-of-position welding (3G-4G plate and 5G-6G pipe full penetration welds). (CSU)

WELD 40 WIRE FEED WELDING PROCESSES—CAREER PATH

Units: 2

Prerequisite: Completion of WELD 10 or 15 with grade of “C” or better

Advisory: Completion of WELD 20 with grade of “C” or better

Hours: 72 (18 lecture, 54 laboratory)

Gas Metal Arc and Flux Core Welding processes. Explores the various modes of metal transfer when using the Gas Metal Arc Welding process. In Flux Cored Arc Welding, both Self Shielding and Dual Shielding, are covered. (not transferable)

WELD 50 GAS TUNGSTEN ARC WELDING (TIG)—CAREER PATH

Units: 3

Prerequisite: Completion of WELD 20 with grade of "C" or better

Advisory: Completion of WELD 15 with grade of "C" or better

Hours: 90 (36 lecture, 54 laboratory)

Tungsten Inert Gas Welding methods and techniques used to weld carbon steel, stainless, aluminum and alloy steels. Instruction in equipment setup for different metals, filler selection, material identification and welding techniques using Gas Tungsten Arc. Laboratory exercises include multiple positions of fillet and groove welds using carbon steel, stainless steel and aluminum of different thicknesses. (CSU)

WELD 60 WELDING METALLURGY

Units: 3

Prerequisite: Completion of WELD 30 or 50 with grade of "C" or better

Advisory: Completion of CHEM A with grade of "C" or better

Hours: 90 (36 lecture, 54 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: 2.5

Prerequisite: Completion of WELD 20 with grade of "C" or better

Advisory: Completion of WELD 30 with grade of "C" or better; OR completion of WELD 25 and WELD 40 with grades of "C" or better

Hours: 99 (18 lecture, 81 laboratory)

Foundation fabrication course includes elements of design and fabrication methods, tool and equipment utilization, materials planning and print reading. Designed for welding students wanting to learn the foundation skills of steel fabrication and construction process. (not transferable)

WELD 80 STRUCTURAL STEEL WELDING CERTIFICATION

Units: 1

Prerequisite: Completion of WELD 30 and 40 with grades of "C" or better

Advisory: Students must be competent in vertical and overhead position welding using certification welding processes of SMAW, FCAW-G and FCAW-S

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 with SMAW E-7018 in 4G and 3G, FCAW-G in 3G and FCAW-S in 3G and 4G in preparation for the actual certification test. (not transferable)

WELD 82 PIPE WELDING CERTIFICATION—UPHILL

Units: 1.5

Prerequisite: Completion of WELD 30 and 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 the welding processes of SMAW; if GTAW root pass certification is the goal, WELD 50 skill set competency for GTAW is also needed

Hours: 54 (14 lecture, 40 laboratory)

Designed to certify the welder within the guidelines of Section IX of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, or the American Petroleum Institute (API) Standard 1104 Welding of Pipelines and Related Facilities. Focus on manipulative skill development using SMAW, GTAW and GMAW processes in preparation for the actual certification test. (CSU)

WELD 83 PIPE WELDING CERTIFICATION—DOWNHILL

Units: 0.5

Prerequisite: Completion with grade of "C" or better or concurrent enrollment in WELD 82

Advisory: Student must be competent in SMAW pipe welding with E-6010 electrode in position

Hours: 36 (5 lecture, 31 laboratory)

Downhill pipe welding to prepare to certify within the guidelines of American Petroleum Institute—welding of cross-country pipelines. Focus on manipulative skill development in preparation for certification test using downhill techniques. (not transferable)

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

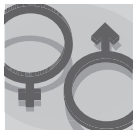
Units: 0.5-4

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: Rebecca Bocchicchio
 ASSOCIATE DEANS: Anne Fleischmann, Susan Lucyga
 DIVISION OFFICE: W 107
 FACULTY: M. Archer, S. Coday, J. Hester, W. Jackson, T. Lord, L. Medeiros, J. Molina-Stidger, M. Seely, K. Taylor, J. Terry, S. Verma
 LIAISON COUNSELORS: M. Braga, M. Moon

**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. In all cases, students should consult with a counselor for more information on university admission and transfer requirements. Students must fulfill the following major requirements with grades of "C" or better, complete a minimum of 60 degree-applicable semester units (12 of which must be completed at Sierra College) with a grade point average of at least 2.0 and complete one of the following three general education patterns: Sierra College Associate Degree Requirements; California State University General Education Breadth pattern; or Intersegmental General Education Transfer Curriculum (IGETC).

REQUIRED COURSE:

UNITS

WMST 1 Introduction to Women's Studies. 3

PLUS 15 UNITS FROM:

ANTH 27 Anthropology of Sex, Gender and Sexuality 3
 ART 1E History of Women in Art 3
 ENGL 27 Literature by Women 3
 HIST 27 Women in American History 3
 PHIL 27 Introduction to Philosophy of Women in Western Cultures 3
 POLS 27 Women and Politics in a Global Society 3
 PSYC 127 Psychology of Women 3
 PSYC 130 Human Sexuality 3
 SOC 5 Sociology of Women's Health 3
 WMST 2 Introduction to LGBT Studies/Queer Theory (also LGBT 1) 3
 WMST 3 Introduction to Women, Gender and Religion (also HUM 9) 3
 WMST 4 Feminism and Social Action (also SOC 10) 3

TOTAL UNITS REQUIRED: 18

WOMEN AND GENDER STUDIES COURSES »

WMST 1 INTRODUCTION TO WOMEN'S STUDIES

Formerly known as SSCI 27

Units: 3

Prerequisite: Eligibility for ENGL A

Hours: 54 lecture

Examination of the varying roles of women in society, emphasizing the diversity of both local and transnational women's experiences. Investigation includes history, embodiment, scientific and cultural representations, work, family, artistic production and social movements. Focuses on power and gender roles and how they vary for women and men of different racial, ethnic, class, national, ability and sexuality groups. (CSU, UC)

WMST 2 INTRODUCTION TO LGBT STUDIES/QUEER THEORY

Also known as LGBT 1

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



PHOTO BY DARYL STINCHFIELD

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.

Students who fail to comply with this policy will be subject to disciplinary action as described in the Honesty in Academic Work Administrative Procedure 5515.

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 to knowingly present 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.



PHOTO BY DARYL STINCHFIELD

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, a student agrees to be a responsible member 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 District Superintendent/President has established procedures for the imposition of discipline on students in accordance with the requirements for due process of the federal and state law and regulations.

The procedures clearly define the conduct that is subject to discipline, and identify potential disciplinary actions, including but not limited to the removal, suspension or expulsion of a student.

The President notifies the Board of all long term suspensions of one or more school terms. The Board considers any recommendation from the Superintendent/President for expulsion. The Board considers an expulsion

recommendation in closed session unless the student requests that the matter be considered in a public meeting. Final action by the Board on the expulsion shall be taken at a public meeting.

The procedures are widely available to students through this catalog and other means.

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 disability, gender, gender identity, gender expression, nationality, race or ethnicity, religion or sexual orientation. (Board Policies 3410 and 3430).
- Engaging in intimidating conduct or bullying against another student or District employee through words or actions, including direct physical contact; verbal assaults, such as teasing or name-calling; social isolation or manipulation; and cyberbullying. (Board Policy 5500)

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. For nursing student discipline procedures and due process, see Administrative Procedure 5521.

Definitions

- A. Day(s): Those days, Monday through Friday, when the District is open to the public.
- 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.
- K. **Withdrawal of Consent to Remain on Campus or District-Controlled Property:** Withdraw of consent to remain on any campus or District-controlled property may be imposed by the Disciplinary Officer or designee on any person to remain on campus in accordance with California Penal Code Section 626.4 where there is reasonable cause to believe that such person has willfully disrupted the orderly operation of the campus or facility.

The Disciplinary Officer or designee may notify any person that consent to remain on the campus or other District-controlled facility has been withdrawn whenever there is reasonable cause to believe that such person has willfully disrupted the orderly operation of such campus or facility. If the person is on campus at the time, he/she must promptly leave or will be escorted off campus. If consent is withdrawn by the Disciplinary Officer or designee a written report will be promptly made to the Vice President, Student Services.

The person from whom consent has been withdrawn may submit a written request for a hearing on the withdrawal within the period of the withdrawal. The written request shall state the address to which notice of hearing is to be sent. The request shall be granted not later than seven days from the date of receipt of the request. The hearing will be conducted in accordance with the provisions of this procedure relating to interim suspensions.

In no case shall consent be withdrawn for longer than 14 days from the date upon which consent was initially withdrawn.

Any person to whom consent to remain on campus

has been withdrawn who knowingly reenters the campus during the period in which consent has been withdrawn is guilty of a misdemeanor and is subject to arrest. This section does not apply to any person who enters or remains on such campus or facility for the sole purpose of applying for the reinstatement of consent or for the sole purpose of attending a hearing on the withdrawal (Penal Code 626.2 and 626.4).

Disciplinary Actions and Procedures

- A. The Disciplinary Officer is the Vice President, Student Services or designee.
- B. **Procedures of Immediate Suspension:** A student placed on immediate suspension will be afforded a reasonable opportunity for a hearing day in accordance with Education Code 66017. The decision to place a student on Immediate Suspension is final and cannot be appealed.
- 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



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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.

1. After receipt of a recommendation for expulsion from the Disciplinary Officer and/or the Disciplinary Appeals Committee, the District Superintendent/President shall decide whether to recommend expulsion to the Board of Trustees. It is recommended that this occur within five days.
2. Written notice of the decision shall be provided to the student.
3. The Board of Trustees shall consider any recommendation from the District Superintendent/President for expulsion, preferably at the next regularly-scheduled meeting of the Board after receipt of the recommendation.
4. All deliberations must occur in closed session to protect the student's right to privacy unless the student requests that the hearing be held publicly.
5. The student must be informed of the right to request that a public hearing be held pursuant to Education Code 72122.
6. The final action taken by the Board must be made in public session so as to make a part of the public record and forwarded to the student.
7. The decision of the Board of Trustees shall be final pursuant to Education Code 76030.

Students' Rights and Grievances

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 Administrative Procedure 5530.

Academic Accommodations Students with verified disabilities 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 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 Procedures 3410 and 3435.

Harassment See Administrative Procedures 3430 and 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 are encouraged to follow the college grievance process. Issues that are not resolved may be referred to the California Community Colleges Chancellor's Office at <http://californiacommunitycolleges.cccco.edu/complaintsform.aspx>

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 Administrative Procedure:

- Discipline of students (see Administrative Procedures 5520 and 5521)
- Discipline of employees
- Traffic or parking citations (through Campus Security)
- 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 appointed by the Management Senate; one faculty member appointed by the Academic Senate; and one student appointed by the Student Senate. The Grievance Officer shall serve as the chair. 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 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 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 recorded. The recordings shall be maintained by the Grievance Officer 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, 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 Officer, (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, lap-tops, 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 and Security Services Office or by accessing the website at www.sierracollege.edu/security. Public information regarding sex offenders may be obtained by accessing the Megan's Law website at www.meganslaw.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 Officer, (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 federales aplicables. Estas leyes prohíben la discriminación y el acoso sexual en contra de todos los estudiantes. Es la política del Distrito el proporcionar la igualdad de oportunidades para todos los estudiantes en cuanto a la admisión académica y



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el acceso a cursos académicos, programas de consejería, programas deportivos, programas de aprendizaje, procedimientos de evaluación, educación vocacional formación profesional y otras actividades, sin tomar en cuenta la raza, color, creencias religiosas, origen nacional, ascendencia (linaje), identidad de grupo étnico, discapacidad física o mental, género, orientación sexual de los estudiantes o la falta de habilidades en el idioma Inglés. Cualquier pregunta relacionada al cumplimiento de estas reglas puede dirigirse al Gerente de Igualdad, Oportunidades de Empleo, (916) 660-7006. Los estudiantes que necesiten información Con respecto a la sección 504 de 1973 de Rehabilitación Deben comunicarse con la Oficina de Programas y Servicios de Estudiantes Discapacitados al (916) 660-7460.

Posting of Materials

Students and the community at large shall be provided with bulletin boards for use in posting student materials at convenient campus locations.

Prohibition of Harassment

All forms of harassment are contrary to basic standards of conduct between individuals and are prohibited by state and federal law, as well as Board Policy, and will not be tolerated. Sierra College is committed to providing an academic and work environment free of unlawful harassment.

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, ethnic group identification, religious creed, age, sex, gender identity and expression, race, color, medical condition, ancestry, sexual orientation, marital status, pregnancy, 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 Officer, (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 3900.

District sites are non-public forums except for the 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 (Public Law 101-542), it is the policy of Sierra College to make available its completion and transfer rates to all current and prospective students. Beginning in Fall 2010, 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, 28.87% attained a certificate, degree, or became 'transfer-prepared' during a three-year period from Fall 2010 to Spring 2013. 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, 12.90% transferred to another postsecondary institution prior to attaining a degree, certificate, or becoming 'transfer prepared' during a five semester period from Spring 2011 to Spring 2013.

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 Rate Disclosure website located at <http://srk.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 Officer, (916) 660-7006.

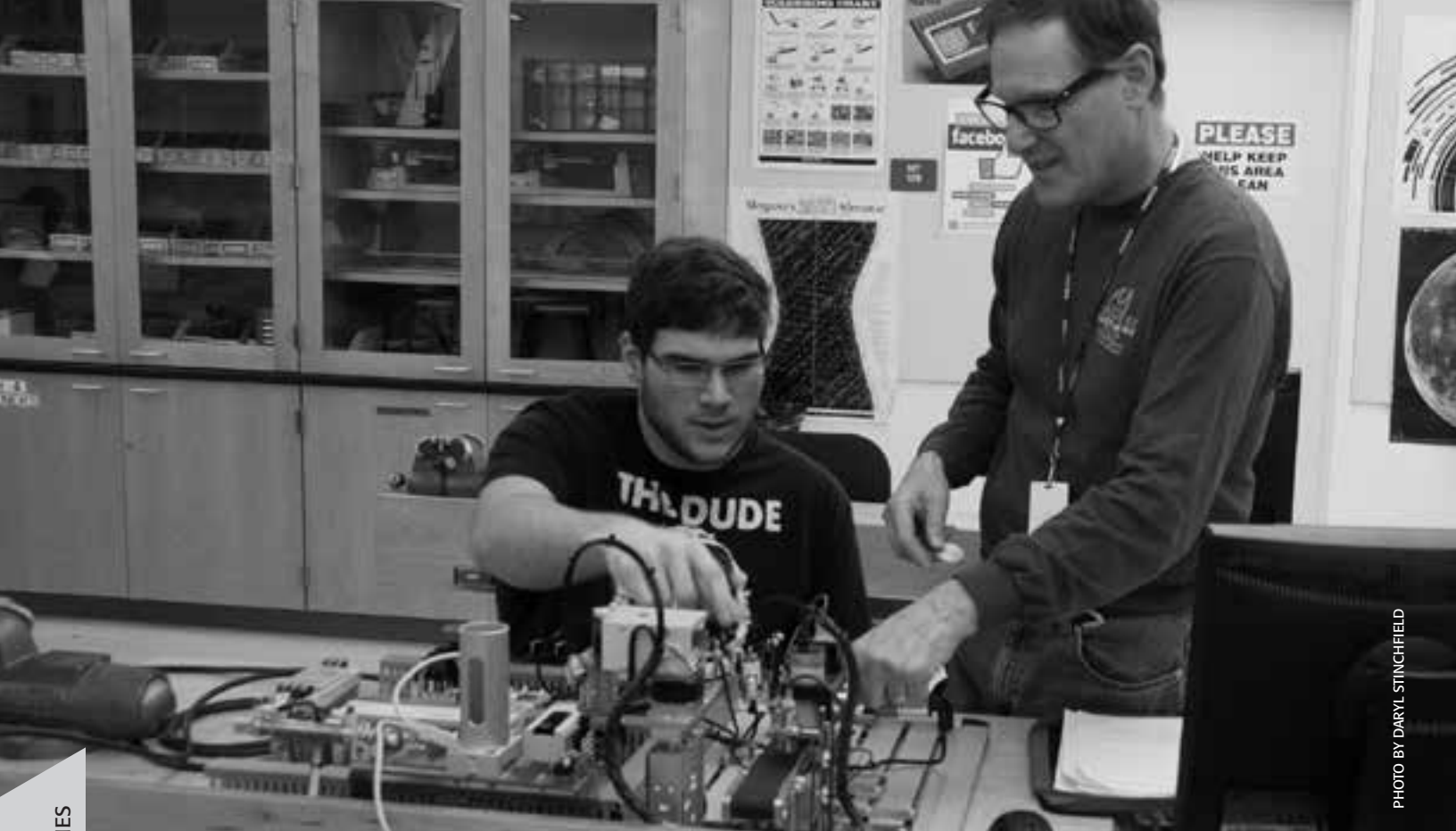


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Smoking, Use of Tobacco, Non-Regulated Nicotine and Other Vapor Producing Products on Campus

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 smoke pose significant health hazards, the District has established a smoke, vapor, and tobacco-free environment. The use of such products is prohibited upon all District owned or controlled properties and in all vehicles owned, leased, or operated by the District. This includes cigarettes, pipes, cigars, other tobacco products, or the smoking of any substance. The use of smokeless tobacco products (e.g., chewing tobacco) and the use of non-regulated nicotine or other vapor producing products (e.g., electronic cigarettes) is also prohibited.

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, knives, explosives, or other dangerous objects are prohibited on any campus, 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



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Staffing Policy

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 Linda DeSai, Placer Nature Center, Auburn
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 Debbie Harrell, KidsFirst, Roseville
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 Kelly Lister, Executive Director, Phoenix Schools, Inc., Folsom
 Josie Shrieve, Family Child Care Provider
 Wendy Stewart, Oakmont High School, Roseville
 Liz Stofleth, Placer County Action Council, Head Start
 Regina Swaney, Instructor, 49er ROP Careers with Children, Placer County
 Vickie Treadway, Preschool Manager, KidZKount, Placer Community Action Council, Inc.

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Don Carroll, Western Engineering Contractors, Loomis
Ronald Chiaratti, Norris Electric, Auburn
Steve Culley, CalTrans, Auburn
Jeffrey Hahn, Covanta Energy, Lafayette
John Haskell, Western Engineering Contractors, Loomis
Tom Holdredge, Holdredge & Kull, Nevada City
B. George Kniazewycz, Renovare International, Inc., Alameda
Steve Leach, R.C.D. Engineering, North San Juan
Patrick Leonhardt, Energy Absorption Systems, Rocklin
Leo R. Martinez, Contractual Engineer, Grass Valley
Arthur Perkins, P.E., Consultant, Moraga
Steve Sarantopolis, Cranmer Engineering, Grass Valley
Tom Tinucci, Wellhead Electric Company, Inc., Sacramento
Terence Vollrath, Consultant, Placerville
Brian Yeh, General Electric Company, Walnut Creek

Extended Opportunity Programs and Services/Cooperative Agencies Resources for Education—EOPS/CARE

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Lynn Davis, CalWORKs Counselor, Sierra College
Rebecca Duncan, Client Service Counselor, Placer County Employment Services
Pat Efsseff, Dean, Student Services, Sierra College
Ruth Flores, EOPS/CARE Counselor, Sierra College
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Kristina Gonzales, Student, Sierra College
Jorge Gonzales, EOPS Alumni Student, Sierra College
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Debbie Kenitzer, Student Services Technician, Sierra College
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Melissa Marcum, Programs Coordinator, Nevada County Foster Youth Services, Independent Living Program and Indian Education
Sandy Muraki, Counselor, Sierra College
Helene Nakamura, CalWORKs Worker, Placer County Department of Human Services
Denise Nichols-Telford, Student Services Technician, Sierra College
David Ortega, EOP Coordinator, California State University, Sacramento
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Nidia Russi-Gorozpe, Senior Counselor, Placer County Employment Services
Oksana Ryan, Student, Sierra College
Alistair Turner, Program Manager, Outreach & International Students, Sierra College

Fashion

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Diana Higashi, Assistant Professor, Fashion, Sierra College
Julie Hirota, Fabric Artist
Michael Sommerfield, Owner, Miosa Couture

Fire Technology

Sean Bailey, Captain, Northstar Fire Department
Mark Buttron, Battalion Chief, Grass Valley Fire Department
Brad Chisholm, Captain, Squaw Valley Fire Department
Mark D'Ambrogio, Chief, Auburn City Fire Department
Sam Goodspeed, Fire Chief, Nevada City Fire Department
Ed Horton, Fire Chief, Loomis Fire Department, Retired
Mike Papera, Placer County Office of Education, 49er ROP
Jeanne Pincha-Tully, U.S. Forest Service
Bryan Ransdell, Assistant Chief, Diamond Springs Fire Department
David Ray, Division Chief, Nevada County Consolidated Fire District, Retired
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Jake Sjolund, Battalion Chief, CAL FIRE, Auburn
Rachelle Smith, Career Education Liaison, Sierra College
Randy Smith, Deputy Chief, NYP Unit, CAL FIRE, Auburn
Jim Summers, Fire Chief, Rocklin Fire Department



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Geographic Information Systems (GIS)

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 Marc Ball, IT Specialist, City of Roseville
 Diana Carolan, GIS Specialist, Nevada County
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 Matt Freemont, Environmental Planner and GIS Specialist, HELIX, Folsom
 Dave Hansen, GIS Specialist, U.S. Bureau of Reclamation, Sacramento
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 Abe Hendricks, CAD and GIS Specialist, Placer County Water Agency, Auburn
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 Brian Johnson, GIS Specialist, City of Roseville
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 Steve Rhyne, GIS Specialist, Fehr & Peers, Roseville
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Health Sciences/Emergency Medical Technician

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 Bill Daniels, Assistant Chief, Sacramento Metropolitan Fire Department
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 Kathy Finney, Division Chief, Roseville City Fire Department
 Brian Gonsalves, Captain, Sacramento Metropolitan Fire Department
 Chris Greene, Captain, Sacramento Metropolitan Fire Department
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 Bruce Ballard, Engineering Manager, Conquip, Inc., Gold River
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 Rob Burgard, Representative, SMC Corporation, Auburn
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 Dan Quarton, Manager, Sierra Pacific Industries, Lincoln
 Mike Robinson, Private Consultant, Grass Valley
 Steve Sanders, Engineer, PACE-Americas, Grass Valley
 Tim Stockwell, Engineer, Hewlett-Packard, Roseville
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Sara Heard, Part-time Professor, Physical Education, Sierra College
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Dr. Mithia Mukutmoni, Professor, Nutrition and Food Science, Sierra College
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Photovoltaic

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Michelle Bertolino, Roseville Electric
Jedediah Biagi, Plan It Solar
Anna Bousouris, Sierra Solar
Julia Burrows, Valley Vision
Peter Davis, ATTEI
Michael Dela Pena, Greentern
Brett Dotson, SMA-America
Kristine Gilbert, Professor, Environmental Studies and Sustainability, Sierra College
John Gildea, Part-Time Professor, Sierra College
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John Hill, Sierra Solar
Brian Hurd, Hands On Solar
Darrell Johnson, Pacific Gas & Electric
Devan Johnson, KW Engineering
Sue Kateley, CalSEIA
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Rick Larkey, North State BIA
Richard Lindstadt, Foresthill High School
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Rachelle Smith, Career Education Liaison, Sierra College
Sam Vanderhoof, Pacific Renewables Group
Martin Webb, Plan It Solar
Dan Zeisler, Principal, Chicago Park

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Janna Evans, Business and Employment Specialist, Golden Sierra Job Training Agency
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Kyle Robbins, Student, Sierra College
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Small Business Development Center

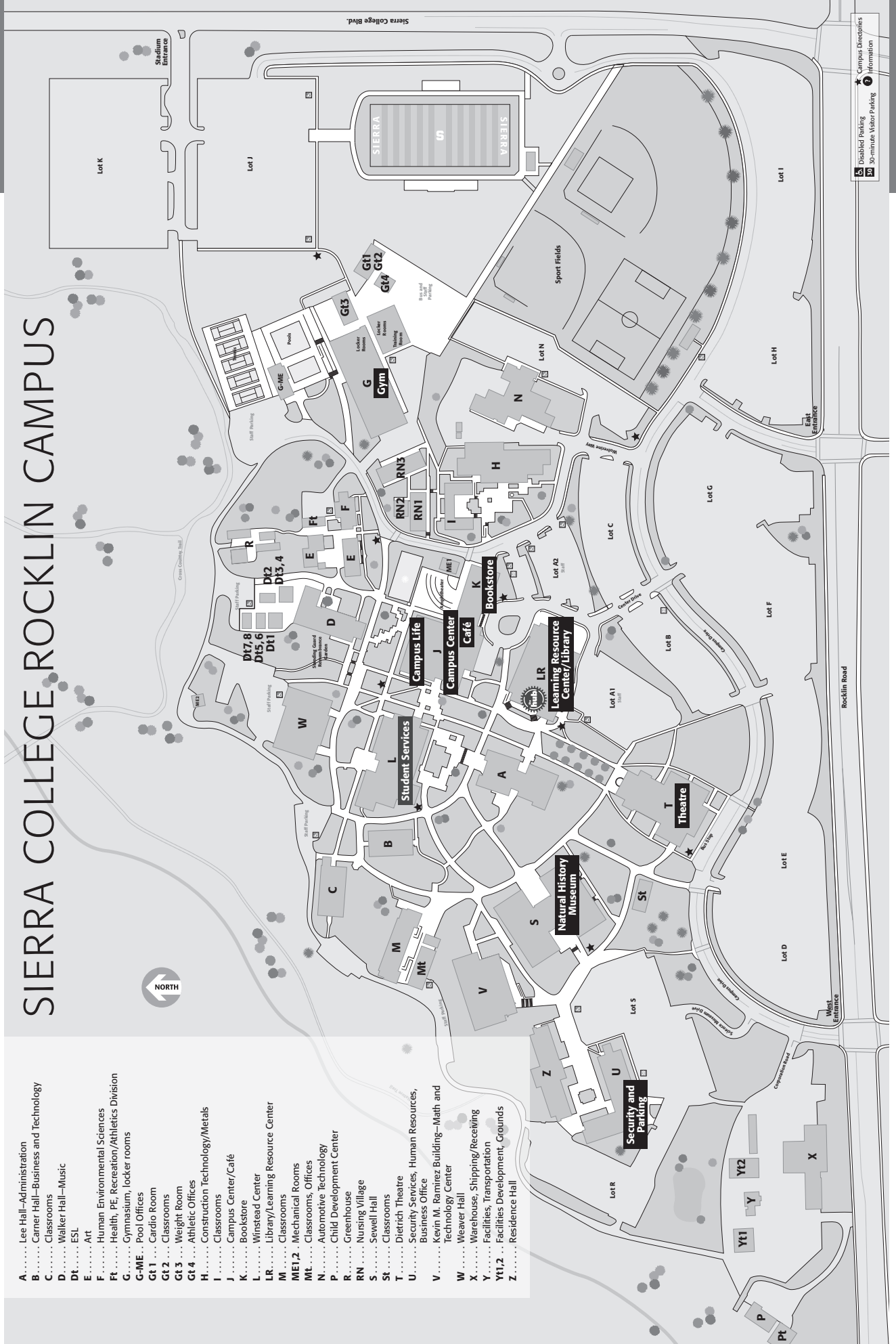
David Castaneda, SBA, Sacramento
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Veterans

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Harrison Jack, Chairman, Sacramento Veterans Health and Wellness Council
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John Melrose, Veteran Service Officer, Placer County
Catherine Morris, Veterans Counselor, Sierra College
BG (ret) Dan Nelan, Director, National Guard and Veterans Programs
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Blake Rood, DSPS and Veterans Technician, Part-Time Counselor, Sierra College
Eric Theer, Veterans Center Certifying Official, Sierra College
Nick Zoffel, Assistant Professor, Communication Studies, Sierra College

SIERRA COLLEGE ROCKLIN CAMPUS

- A Lee Hall—Administration
- B Canner Hall—Business and Technology
- C Classrooms
- D Walker Hall—Music
- DE ESL
- E Art
- F Human Environmental Sciences
- FT Health, PE, Recreation/Athletics Division
- G Gymnasium, locker rooms
- G-ME Pool Offices
- Gt 1 Cardio Room
- Gt 2 Classrooms
- Gt 3 Weight Room
- Gt 4 Athletic Offices
- H Construction Technology/Metals
- I Classrooms
- J Campus Center/Café
- K Bookstore
- L Winstead Center
- LR Library/Learning Resource Center
- M Classrooms
- ME1,2 Mechanical Rooms
- ME Classrooms, Offices
- N Automotive Technology
- P Child Development Center
- R Greenhouse
- RN Nursing Village
- S Sewell Hall
- ST Classrooms
- T Dietrich Theatre
- U Security Services, Human Resources, Business Office
- V Kevin M. Ramirez Building—Math and Technology Center
- W Weaver Hall
- X Warehouse, Shipping/Receiving
- Y Facilities, Transportation
- Y1,2 Facilities Development, Grounds
- Z Residence Hall



SIERRA COLLEGE NEVADA COUNTY CAMPUS

- Services**
- Assessment Testing..... see Counseling
 - ATM..... N5
 - Audio Visual/Media..... N6 (2nd Floor)
 - Bookstore..... N5
 - Cashier..... see Admissions/Records
 - Computer Lab, Student Access..... N7
 - ID Cards..... see Admissions/Records
 - Learning Center/Tutoring..... N2 (2nd Floor)
 - Library/LRC..... N6
 - Lost and Found..... see Security
 - Parking..... see Security
 - Courtesy Phone..... N1
 - Registration..... see Admissions/Records
 - Student Services..... N1
 - Testing Center..... see Library/LRC
 - Transcripts..... see Admissions/Records
 - Transfer Center..... see Counseling
 - Tutoring/Learning Center..... N2 (2nd Floor)
 - Veterans Services..... see Counseling
 - Writing Center..... N2 (2nd Floor)
- Offices**
- Admissions/Records..... N1 (1st Floor)
 - Associated Student Government..... N5
 - Campus Administration..... N2 (1st Floor)
 - Counseling..... N1 (2nd Floor)
 - Dean's Office..... N2 (1st Floor)
 - Disabled Student Services..... N3
 - EOP5/Care/CAWORKS..... N1 (2nd Floor)
 - Facilities and Plant Operations..... N20
 - Custodial..... N20
 - Grounds..... N20
 - Libraries..... N20
 - Maintenance..... N21
 - Financial Aid..... N1 (1st Floor)
 - Foundation..... Rocklin Campus
 - Ghidotti Early College High School..... N6 (2nd Floor)
 - Health Center..... N3
 - Records/Admissions..... N1 (1st Floor)
 - Security..... N1 (1st Floor)

- Destinations**
- Bell Tower Quad..... N4
 - Café/Student Center..... N5
 - Child Development Center..... N17
 - Conference Room..... N6-101
 - eVehicle Charge Stations..... Lot 5
 - Graevs Valley Fire Station #2..... CVFS
 - Gymnasium/Locker Rooms..... N13
 - Library/LRC..... N6
 - Multipurpose Center..... N12
 - Public Safety Training Center..... N22
 - Robotics Observatory..... N19
 - Rotary Field..... N23
 - Student Center/Café..... between N9 and N13
 - Western Quad..... between N9 and N13



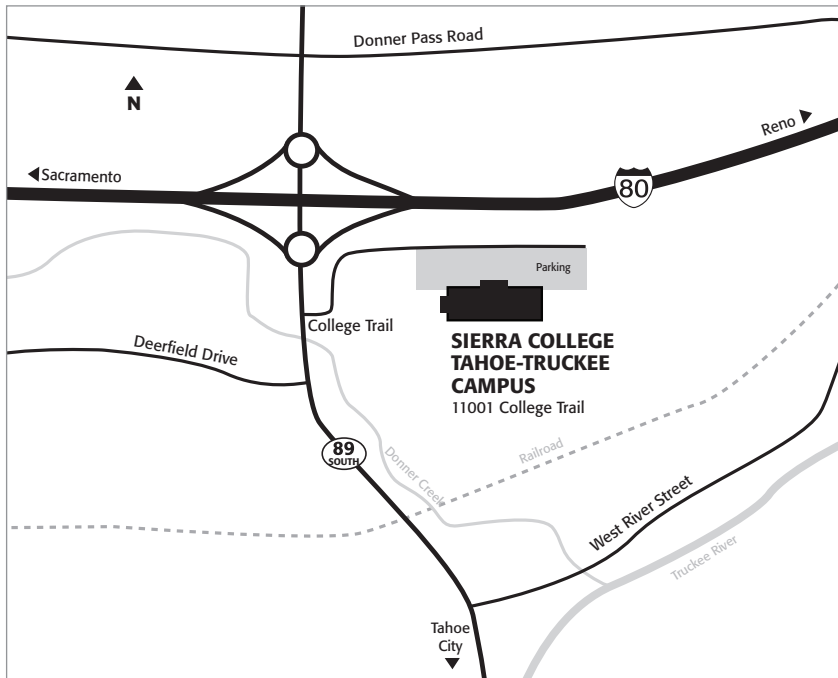
Legend

- ♿ Disabled Parking
- 🚗 Parking Permit Dispenser
- 🕒 30-minute Visitor Parking
- 👤 Staff Parking
- 🕒 Staff Parking after 6pm
- ☎ Emergency Telephone
- 📞 Call24 Emergency Phone
- 📞 Courtesy Phone
- 🚪 Elevator
- 📍 Campus Directories
- 🛡 Security Services

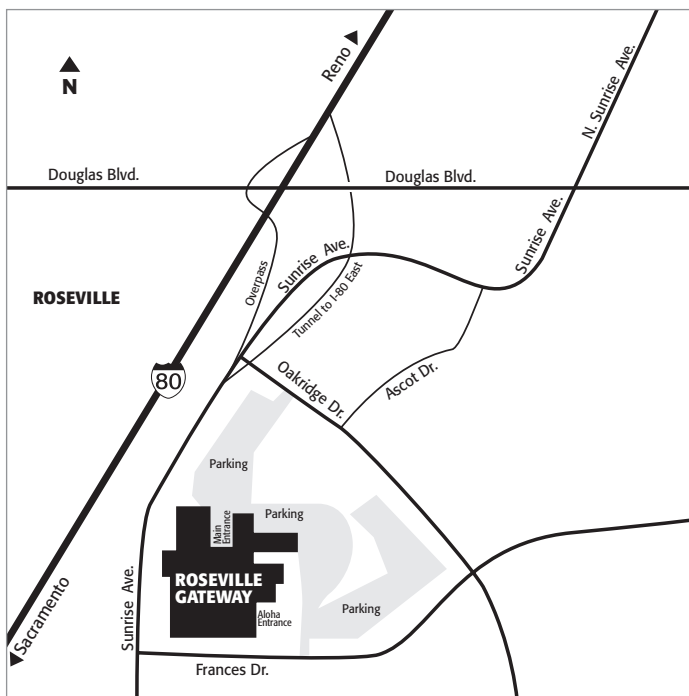
OTHER CAMPUS MAPS



TAHOE-TRUCKEE CAMPUS MAP



ROSEVILLE GATEWAY CENTER MAP



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