

College of San Mateo

1995-1996

Catalog

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San Mateo

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Catalog

CSM

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College of San Mateo is fully accredited by the Western Association of Schools and Colleges, the recognized local agency which is affiliated with the Federation of Regional Accrediting Commissions of Higher Education.

Peter J. Landsberger
President, College of San Mateo

Board of Trustees
San Mateo County
Community College District

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Helen Hausman, *Vice President-Clerk*
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Matthew M. Johnson, *Student Trustee, 1995-96*

Lois A. Callahan
District Chancellor

Calendar of Important Dates

Summer Intersession 1995

Placement Tests See Schedule of Classes for dates, times, and places

Registration See Schedule of Classes

June 19 Classes begin

July 4 Independence Day Holiday

July 5 Last day to petition for Summer AA/AS degree or certificate

July 28 Summer Intersession six-week classes close

August 11 Summer Intersession eight-week classes close

Fall Semester 1995

Approximately April 19 Applications available

Placement Tests for Fall Semester 1995 See Schedule of Classes for dates, times, and places

Counseling/Registration, new and returning students See Schedule of Classes for dates, times, and places

August 21 Day and evening classes begin

September 1 Last day to add semester-length classes

September 1 Last day to drop semester-length classes with eligibility for partial refund

September 2 Declared recess

September 4 Labor Day Holiday

September 15 Last day to drop semester-length classes without appearing on student record

September 26 Last day to declare CR/NC option for designated courses

September 30 Last day to file application for admission to the International Student (F-1 visa) Program

October 9 Last day to apply for Fall AA/AS degree or certificate

November 10 Veterans' Day Holiday

November 11 Declared recess

November 17 Last day to withdraw from a semester-length class in which a student is failing without possible F grade

November 22 Evening classes recess

November 23-25 Thanksgiving recess

Registration for continuing students See Schedule of Classes for dates, times, and places

December 11-16 Final examinations (evening and Saturday classes)

December 14-20 Final examinations (day classes)

December 21-January 13 Inter-Semester recess

Spring Semester 1996

Approximately October 17 Applications available

Placement Tests for Spring Semester 1996 See Schedule of Classes for dates, times, and places

Counseling/Registration, new and returning students See Schedule of Classes for dates, times, and places

January 17 Day and evening classes begin

January 30 Last day to add semester-length classes

January 30 Last day to drop semester-length classes with eligibility for partial refund

February 9 Last day to drop semester-length classes without appearing on student record

February 15 Professional Growth Day — no day or evening classes

February 16 Lincoln Day Holiday

February 17 Declared recess

February 19 Washington Day Holiday

February 20 Last day to declare CR/NC option for designated courses

February 26 Last day to apply for AA/AS degree or certificate

April 1-6 Spring recess

April 15 Last day to file application for admission to the International Student (F-1 visa) Program

April 26 Last day to withdraw from a semester-length class in which a student is failing without possible F grade

Placement Tests for Fall Semester 1996 See Schedule of Classes for dates, times, and places

Registration for continuing students See Schedule of Classes for dates, times, and places

May 14-20 Final examinations (evening and Saturday classes)

May 22-29 Final examinations (day classes)

May 27 Memorial Day Holiday

May 29 Commencement

Summer 1996 (Tentative)

Placement Tests See Schedule of Classes for dates, times, and places

Registration See Schedule of Classes

June 17 Classes begin

July 4 Independence Day Holiday

July 5 Last day to petition for Summer AA/AS degree or certificate

July 26 Summer six-week classes close

August 9 Summer eight-week classes close

Administration

President

Peter J. Landsberger

Vice President, Instruction

Shirley J. Kelly

Vice President, Student Services

Patricia L. Griffin

ACADEMIC DIVISIONS

Dean, Business/Creative Arts

Grace Y. Sonner

Dean, Corporate and Community Education

Sandra L. Mellor

Dean, Language Arts

Susan J. Estes

Dean, Mathematics and Science

Ardash Ozsogomonyan

Dean, Physical Education/Athletics

Gary M. Dilley

Dean, Social Science

Albert A. Acena

Dean, Technology

(To be announced)

STUDENT SERVICES

Dean of Admissions and Records

John F. Mullen

Dean of Articulation and Research

John J. Sewart

Dean of Counseling/Advising and Matriculation

Steven N. Morehouse

Dean of Special Programs and Services

Arnett B. Caviel

OPERATIONS

Director

Nancy Morrissette

Accuracy Statement

College of San Mateo and the San Mateo County Community College District have made every reasonable effort to determine that everything stated in this catalog is accurate. Courses and programs offered, together with other information contained herein, are subject to change without notice by the administration of College of San Mateo for reasons related to student enrollment, level of financial support, or for any other reason, at the discretion of the College. At the time of publication the fees described in this catalog are accurate. However, at any time local or State mandated fees may be imposed or increased. The College and the District further reserve the right to add, amend, or repeal any of their rules, regulations, policies, and procedures, in conformance with applicable laws.

General Information

The District

Starting with just 35 students when it first opened its doors at the Baldwin campus in downtown San Mateo in 1922, San Mateo County Community College District has grown to a complex of three modern campuses serving more than 25,000 day and evening students from throughout San Mateo County.

In early years, the District consisted only of the area within the San Mateo Union High School District. In 1937, the Jefferson Union and Half Moon Bay high school districts were included. Sequoia Union High School and South San Francisco Unified School Districts became part of the College District in the 1960s; La Honda-Pescadero Unified School District joined in 1976.

First classes were held in a building shared with San Mateo High School in downtown San Mateo. In 1923, the College moved to a large house on the Kohl Estate, in what is now San Mateo's Central Park. Four years later, the high school occupied a new campus and the College moved back to the Baldwin campus.

In 1939, a new CSM campus went into operation at North Delaware Street and Peninsula Avenue, San Mateo, but because of World War II, development of the site was curtailed. When the war ended, the College leased the Merchant Marine Cadet School at Coyote Point, San Mateo, and added those facilities to the classrooms at the Baldwin and Delaware campuses, conducting classes simultaneously at three separate locations.

In 1957, the Board of Trustees developed a 25-year District master plan based on the recommendations of a citizens' advisory committee, and the same year submitted a \$5.9 million bond issue to voters that was approved by a three-to-one margin.

The bond issue victory cleared the way for prompt acquisition of the present College of San Mateo campus and also provided funds for purchase of a 111-acre site west of Skyline Boulevard and south of Sharp Park Road in San Bruno. A third site, of 131 acres west of the Farm Hill subdivision on the Redwood City-Woodside line, was purchased in 1962.

The current College of San Mateo campus was opened in 1963, followed by Cañada

College, Redwood City, in 1968, and Skyline College, San Bruno, in 1969. Construction of Cañada and Skyline was made possible in large part from proceeds from a second bond issue of \$12.8 million approved by District voters in 1964.

District Mission

Preamble

The San Mateo County Community College District, recognizing each individual's right to education, provides the occasions and settings which enable students to develop their minds and their skills, engage their spirits, broaden their understanding of social responsibilities, increase their cultural awareness, and realize their individual potential. The District is committed to leadership by providing quality education and promoting life-long learning in partnership with its community and its affiliated educational institutions. It actively participates in the economic, social and cultural development of San Mateo County. In a richly diverse environment and with increasing awareness of its role in the global community, the District is dedicated to maintaining a climate of academic freedom in which a wide variety of viewpoints is cultivated and shared.

Mission

In an atmosphere of collegiality and shared responsibility, and with the objective of sustaining open access for students, the San Mateo County Community College District will fulfill the following mission with excellence, even at the expense of scope of service:

1. provide a breadth of educational opportunities and experiences which encourage students to develop their general understanding of human effort and achievement;
2. provide lower division programs to enable students to transfer to baccalaureate institutions;
3. provide occupational education and training programs directed toward career development, in cooperation with business, industry, labor, and public service agencies;
4. provide developmental and remedial education in language and computational skills required for the successful completion of educational goals;
5. provide a range of student services to assist students in attaining their education and career goals;

6. provide self-supporting community education classes, contract education and training, and related services tailored to the human and economic development of the community;
7. celebrate the community's rich cultural diversity, reflect this diversity in student enrollment, and promote it in its staff.

To fulfill this educational mission, the District is committed to effective institutional research, including the analysis and evaluation of programs and services. The District plans, organizes, and develops its resources to achieve maximum effectiveness, efficiency, equity and accountability.

Statement on Academic Freedom

The San Mateo County Community College District is dedicated to maintaining a climate of academic freedom encouraging the sharing and cultivation of a wide variety of viewpoints. Academic freedom expresses our belief in inquiry, informed debate and the search for truth; academic freedom is necessary in order to provide students with a variety of ideas, to encourage them to engage in critical thinking and to help them understand conflicting opinions.

Academic freedom encompasses the freedom to study, teach, and express ideas, including unpopular or controversial ones, without censorship or political restraint. Academic freedom, rather than being a license to do or say whatever one wishes, requires professional competence, open inquiry and rigorous attention to the pursuit of truth.

The District's faculty have the right to express their informed opinions which relate, directly or indirectly, to their professional activities, whether these opinions are expressed in the classroom, elsewhere on campus or at college-related functions. In a search for truth and in a context of reasoned academic debate, students also have the right to express their opinions and to question those presented by others.

Employment by the District does not in any way restrict or limit the First Amendment rights enjoyed by faculty as members of their communities. Faculty members are free to speak and write publicly on any issue, as long as they do not indicate they are speaking for the institution.

Protecting academic freedom is the responsibility of the college community. Therefore, in a climate of openness and mutual respect,

free from distortion and doctrinal obligation, the District protects and encourages the exchange of ideas, including unpopular ones, which are presented in a spirit of free and open dialogue and constructive debate.

The College

College of San Mateo, the oldest of the three colleges in San Mateo County Community College District, is located on a 153-acre site that provides a panoramic view of the north Bay Area.

Completed at a cost of almost \$19.5 million, the campus opened in 1963 and currently serves approximately 12,000 day and evening students. It enrolls students from the entire District, although its chief service area is central San Mateo County.

The College's main educational structures are built along a north-south axis provided by the main pedestrian mall. A second mall, running east and west, connects the Fine Arts Center with the Library. In addition to three main lecture halls, the College has a three-building science center, an engineering building, a planetarium, a complex which houses dental assisting, cosmetology, nursing, and one which houses electronics and aeronautics. A separate area houses the horticulture programs, Extended Opportunities Programs and Services and the Multicultural Center.

To assist students in profiting from their education, the College helps them explore their interests and abilities, choose their life work, and plan an educational program which will prepare them for that work. It offers this assistance through a formal program of guidance and counseling, and through informal student-teacher relationships which are among the most distinctive and valuable of its services. The College recognizes the educational value of organized student activities and encourages students and faculty participation in these activities.

Situated close to San Francisco and several fine colleges and universities, College of San Mateo is part of a colorful community which enjoys many cultural advantages. Many College of San Mateo graduates transfer to the University of California, California State Universities, and other major public and private colleges and universities. Because the needs of these students who transfer for upper division work are carefully provided for in the curriculum, the College enjoys a fine reputation among the universities of the State. CSM graduates

have consistently had a pattern of success in transfer educational institutions. Many College of San Mateo students, having temporarily completed their formal education with the Associate in Arts or the Associate in Science degree, find employment in business and industry.

Accreditation

College of San Mateo is fully accredited by the Western Association of Schools and Colleges, the recognized local agency which is affiliated with the Federation of Regional Accrediting Commissions of Higher Education.

Revision of Regulations

Any regulation adopted by the administration of College of San Mateo will be considered an official ruling and will supersede regulations on the same subject which appear in this Catalog and other official publications, provided that the new regulation has been officially announced and posted.

Veterans and Veterans' Dependents

College of San Mateo is listed by the Veterans Administration as qualified to certify students who are working toward an AA/AS degree program, or certain certificate and transfer programs, for benefits under Chapter 30, 32 (Veterans), Chapter 31 (Vocational Rehabilitation), Chapter 35 (Veterans' Spouses or Dependents), and Chapter 106 (Selected Reserve). All students, except those under Chapter 31, buy their own books and supplies. Those interested in attending College of San Mateo under any of these chapters should contact the Office of Admissions and Records in the Administration Building to apply for benefits.

Eligible veterans of the armed forces have ten years from their date of separation from active duty to take advantage of their educational benefits. Educational benefits are also available for Selected Reservists (Chapter 106). Notice of Basic Eligibility is required.

To initiate Veterans Administration benefits, veterans should see the Veterans Assistant in the Office of Admissions and Records (Administration Building, second floor). Those who have previously attended college must file official copies of college transcripts with the Veterans Assistant.

Military Service Credit

For academic credit purposes, a veteran is defined as an honorably discharged member of the United States Armed Forces who was on active duty for one year or longer. Upon presentation of separation or discharge papers, veterans are exempted from the Health Science and Physical Education requirements for the AA/AS degree. They are also granted six units of elective credit toward the AA/AS degree.

In addition, veterans who qualify may receive credit for military service schools toward the Associate in Arts/Science degree upon presentation of proof to the Office of Admissions and Records. They must have completed a minimum of 12 units with a grade-point average of 2.0 at College of San Mateo. Units of credit for military service (6 units) and military service schools will be recorded and so annotated on the student's academic record.

For further information contact the Office of Admissions and Records, 574-6165.

High School Diplomas

The College does not issue high school diplomas. Students who wish to complete requirements for the diploma should consult the high school they last attended to determine graduation requirements. Students who are unable to make arrangements with their previous high schools can contact the office of the high school district in which they now reside. Counseling/advising services for high school diplomas may be obtained by residents of the San Mateo Union High School District by telephoning the SMUHSD Adult Education Counselor at (415) 347-9871.

Transcripts

Official transcripts of a student's academic record at College of San Mateo will be sent to employers, colleges and other institutions upon written request by the student. All courses completed or in progress at Cañada College, College of San Mateo and/or Skyline College will appear on the transcript. Transcripts from high school and other colleges will not be forwarded. Students may also request "issued to student" copies to be sent to themselves.

A fee (currently \$3 per transcript) is charged if the student has previously requested two or more transcripts. Transcript request forms are available from and submitted with ap-

appropriate payment to the Office of Admissions and Records. Telephone 574-6593.

An unofficial computer printout of a student's record reflecting courses taken during or after the Summer 1981 semester may be purchased by a student at the counter of the Office of Admissions and Records. Photo identification is required; the current charge is \$1 per copy.

Drug-Free Campus Policy

San Mateo County Community College District and College of San Mateo, in compliance with the Federal Drug-Free Schools and Communities Act Amendments of 1989, prohibit the use, possession, sale or distribution of alcohol, narcotics, dangerous or illegal drugs or other controlled substances, as defined in California statutes, on District or College property or at any function sponsored by the District or Colleges.

Students are expected to conduct themselves as responsible citizens and in a manner compatible with the community college function as an educational institution. Students are subject to civil authority and to all District and College rules and regulations.

Students found to be in violation of the drug-free campus policy by manufacturing, distributing, dispensing, possessing or using controlled substances, as defined in California statutes, on any District property will be subject to disciplinary measures up to and including possible cancellation of registration.

Persons seeking further information concerning this policy or the health risks and effects associated with alcohol and narcotics or other dangerous or illegal drugs should contact Jennie Halualani, College Nurse, in the Health Center, Building 1, Room 226 (574-6396) or Angela Stocker, Project Director, Alcohol and Drug Prevention/Education Program, Building 1, Room 271 (574-6465).

Matriculation

Matriculation is the process which brings the College and a student who enrolls for credit into an agreement for the purpose of developing and realizing the student's educational objective. The agreement acknowledges responsibilities of both parties to enable students to attain their objectives efficiently through the College's established programs, policies and requirements. All students, except those exempted on the basis of locally established criteria (e.g., holders of A.A./A.S. or higher degrees), are expected to complete matriculation requirements.

The College provides matriculation services organized in several interrelated components:

1. **Admissions:** Collects and analyzes information on each applicant, identifies students needing special services, and assists students to enroll in a program of courses to attain their educational goals.
2. **Skills Assessment and Placement Testing:** Measures students' abilities in English, reading, mathematics, learning and study skills, and assesses students' interests and values related to the world of work. In addition to helping students with course selection, assessment results are used to determine honors eligibility and for referral to specialized support services.
3. **Orientation:** Acquaints students with College facilities, special programs, services, as well as academic expectations and procedures.
4. **Advisement/Counseling and Course Selection:** A process in which students meet with a counselor/advisor to develop an individual educational plan, choose specific courses, and update their plans periodically.
5. **Student Follow-up:** Ensures that the academic progress of each student is regularly monitored, with special efforts made to assist students who have not determined an educational goal, who are enrolled in pre-collegiate basic skills courses, and/or who have been placed on academic probation.

Each matriculated student is expected to:

1. Express at least a broad educational intent at entrance and be willing to declare a specific educational goal following the completion of 15 semester units of degree applicable credit course work.
2. Attend classes regularly and complete assigned course work.

3. Cooperate in the development of a student educational plan within 90 days after declaring a specific educational goal, and subsequently abide by the terms of this plan or approved revision thereof, making continued progress toward the defined educational goal.

Note: The College may withhold matriculation services from students failing to cooperate in meeting the above expectations.

Each matriculated student is entitled to:

1. Participate in the process of developing his/her student educational plan. A student who believes the College has not afforded him/her the opportunity to develop or implement this plan may file a complaint in the Office of the Vice President for Student Services, Building 1, Room 273.
2. Be given equal opportunity to engage in the educational process regardless of sex, marital status, disability, race, color, religion or national origin. A student who alleges he/she has been subject to unlawful discrimination may file a grievance in the Office of the Dean of Special Programs and Services, Building 1, Room 215.
3. Challenge any prerequisite, filing a petition in the Office of the Vice President for Instruction, Building 1, Room 135, on one or more of the following grounds:
 - a. the prerequisite is not valid because it is not necessary for success in the course for which it is required;
 - b. the student has the knowledge or ability to succeed in the course despite not meeting the prerequisite; or
 - c. the prerequisite is discriminatory or is being applied in a discriminatory manner.
4. Obtain a waiver from the appropriate instructional division dean of any prerequisite or corequisite course for a particular term because the course is not available during that term.
5. Request a waiver of any matriculation requirement on the basis of extraordinary circumstances by filing a petition in the Office of the Vice President for Student Services.
6. Review the matriculation regulations of the California Community Colleges and exemption criteria developed by this District and file a complaint when he/she believes the College has engaged in any practice prohibited by these regulations. The regulations are available and complaints may be filed in the Office of the Vice President for Student Services.

Alternative matriculation services are available for students who require special accommodations in the educational setting:

1. Students with physical, visual, communication or learning disabilities are advised to contact: Disabled Student Center, Building 16, Room 151 or call 574-6438.
2. Students with difficulty in reading, writing, math and other basic skills are advised to contact: EOPS or Multicultural Center, Building 20, Room 107 or call 574-6158 or 574-6154.
3. Students who speak English as their second language may contact: Multicultural Center, Building 20, Room 107 or call 574-6154.
4. Students whose native language is Spanish are invited to view a CSM orientation video with Spanish narration in the Counseling Center, Building 1, Room 130 (days) or in the Career Development Center, Building 5, Room 128 (evenings).

Any student who wishes to challenge any requirement of Matriculation should contact the Office of the Vice President for Student Services, Building 1, Room 273.

Nondiscrimination Policy

College of San Mateo is committed to equal opportunity regardless of age, gender, marital status, disability, race, color, sexual orientation, religion, national origin, or other similar factors, for admission to the College, enrollment in classes, student services, financial aid, and employment in accordance with the provisions of Title VI of the 1964 Civil Rights Act, Title IX of the Educational Amendments of 1972 (45CRF 86), Section 504, Rehabilitation Act of 1973 (P.L. 93-112), and the Americans With Disabilities Act of 1990.

It is important that students, staff, and all others associated with the College understand the importance of reporting concerns about possible violations of this policy. The College's commitment to equal opportunity demands full investigation of possible violations and an opportunity for a fair and impartial hearing on any matter relating to these laws and policies.

Any person seeking information concerning these laws and policies or claiming grievance because of alleged violations of Title VI of the 1964 Civil Rights Act and Sec. 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990 should contact Arnett Caviel, Dean of Special Programs and Services, Administration Building, Room 215, telephone 574-6434.

All grievances will be reviewed in terms of Title VI and Title IX law, and persons involved will be advised of the provisions of the law and their legal rights. If normal channels are not available or fail to meet legal requirements, the necessary action will be initiated. The office will maintain a record of all Title VI and Title IX grievances, and will report to the Faculty and Staff Diversity Advisory Committee the general nature of such grievances and progress toward their resolution.

Política antidiscriminatoria

El Colegio de San Mateo se compromete a proporcionarles a todos la misma oportunidad de ingresar en el colegio, de matricularse en las clases y de recibir servicios, ayuda financiera y empleo estudiantil, sin que se tenga en cuenta la edad, el sexo, el estado civil, la incapacidad física o mental, la raza, el color, la orientación sexual, la religión, el origen u otro factor similar. Nuestra política se basa en las disposiciones de las leyes referidas en los siguientes títulos reglamentarios, a saber: *Title VI of the 1964 Civil Rights Act; Title IX of the Educational Amendments of 1972 (45CRF 86); Section 504, Rehabilitation Act of 1973 (P.L. 93-112); Americans with Disabilities Act of 1990.*

Es importante que todo estudiante, empleado o individuo asociado con el Colegio aprecie lo importante que es el reportar cualquier caso que parezca ser una infracción de esta política. El Colegio se propone ofrecerles las mismas oportunidades a todos y por eso facilita la investigación exhaustiva de posibles infracciones y asegura el establecimiento de un foro legal para la vista justa e imparcial de cualquier asunto relacionado con las leyes y nuestra política. Cualquier persona que necesite obtener más información sobre estas leyes o esta política o que quiera hacer una reclamación basada en la infracción alegada de los títulos susodichos — *Title VI of the 1964 Civil Rights Act y Section 504, Rehabilitation Act of 1973* — debe dirigirse a la Oficina de Programas y Servicios Especiales, a cargo del decano Sr. Arnett Caviel, que se encuentra en el centro administrativo del colegio, edificio n° 1 oficina n° 215, al teléfono (415) 574-6434.

Conforme a las leyes en los títulos citados anteriormente, se estudiará cada reclamación y a todas las personas a quienes concierna se les informará sobre las disposiciones de las leyes y los derechos legales pertinentes. Si por la manera

prescrita resulta imposible ejecutar el proceso susodicho, o si no se cumple con los requisitos prescritos por las leyes, se iniciará la acción legal necesaria. Se compilará un registro de todas las reclamaciones basadas en los títulos mencionados y se comunicará al comité encargado del plan de Acción Afirmativa — *Faculty and Staff Diversity Advisory Committee* — sobre la naturaleza de las reclamaciones, así como también su gestión y resolución.

Walang Diskriminasyong Patakaran

Ang Kolehiyo ng San Mateo ay nagbibigay ng pantay na pagkakataon sa lahat anuman ang edad, kasarian, katayuang marital, kapansanan, lahi, kulay, orientasyong seksuwal, relihiyon, bansang pinagmulan, o iba pang batayan, para sa pagtanggap sa Kolehiyo, pagpapatala sa klase, serbisyo sa estudyante, tulong na pinansiyal, at trabaho ayon sa mga itinatadhana ng Title VI ng 1964 Civil Rights Act, Title IX ng Educational Amendments ng 1972 (45CRF 86), Section 504, Rehabilitation Act of 1973 (P.L. 93-112), at ng Americans With Disabilities Act of 1990.

Mahalagang maintindihan ng mga estudyante, kawani, at lahat ng iba pang kaugnay ng Kolehiyo ang kahalagahan ng pag-uulat ng mga tungkol sa posibleng paglabag sa patakaran ito. Upang maibigay ng Kolehiyo ang pantay na pagkakataon, kailangan ang kumpletong imbestigasyon ng posibleng paglabag at ng pagkakataon para sa pantay at walang kinikilingang pagdinig ng anumang bagay na may kinalaman sa mga batas at patakaran.

Sinumang naghahangad ng impormasyon tungkol sa mga batas at patakaran ito o nagrereklamo ng paglabag sa Title VI ng 1964 Civil Rights Act at Sec. 504 ng Rehabilitation Act of 1973 ay dapat kontakin si Arnett Caviel, Dekano ng mga Espesyal na Programa at Serbisyo. Gusaling Administrasyon. Silid 215. Telephone 574-6434.

Ang lahat ng reklamo ay susuriin ayon sa batas ng Title VI at Title IX, at ang mga taong kasangkot ay pagpapayuhan ng mga tadhana ng batas at ng kanilang mga legal na karapatan. Kung ang mga normal na paraan ay hindi magagamit o hindi matugunan ang mga pangangailangang legal, ang kinakailangang hakbang ay gagawin. Ang opisina ay hahawak ng mga rekord ng lahat ng reklamong pang-Title VI at Title IX, at iuulat sa Lupon ng Apirmatibong Aksiyon ang katayuan ng reklamo at hakbang tungo sa kalutasan.

一視同仁政策

聖馬刁書院在取錄新生、課程選修、學生服務、經濟援助及聘請職員方面的宗旨，是根據1964年公民權利法案第六章、1972年教育修訂法(45CRF86)第九章、1973年康復法案(P.L.93-112)第504節，以及1990年美國人殘障法案來提供均等的機會，無分年紀、性別、婚姻狀況、殘疾、種族、膚色、性取向、宗教、原國籍、或其他類似的因素。

本校學生、職員及一概與書院有關之人士均須明白舉報可能觸犯此政策事例之重要性。校方秉承均等機會的宗旨，務必徹查所有舉報，更會就任何有關這些法例及政策的事件，舉行聆聽會以示公允。

任何人士如欲查詢有關這些法例及政策的資料，或投訴涉嫌觸犯1964年公民權利法第六章及1973年康復法案(P.L.93-112)第504節之事件者，請聯絡「特別計劃及服務部」主任 Arnett Caviel (Dean of Special Programs and Services, Administration Building, Room 215; 電話：415-574-6434)。

所有投訴均會按照第六章及第九章法例來審查。有關人等會收到法例內容及法定權利的通知。正常途徑如果受阻，或有違法律規定者，校方將會採取適當的行動。除記錄所有關於第六及第九章法例的投訴之外，校方亦會將投訴內容報告權益委員會 (Affirmative Action Committee) 並依循委員會的決定來處理。

Privacy Rights of Students Policy

The Family Educational Rights and Privacy Act (Sec. 438, P.L. 93-380, as amended) requires educational institutions to provide: access to official educational records directly related to the student; an opportunity for a hearing to challenge such records on the grounds that they are inaccurate, misleading, or otherwise inappropriate; that the College must obtain the written consent of the student before releasing personally identifiable information from records to other than a specified list of persons and agencies; and that these rights extend to present and former students of the College.

The Act provides that the College may release certain types of "Directory Information" unless the student submits a request in writing to the Dean of Admissions and Records that certain or all such information not be released without his/her consent. Currently enrolled students may request that "Directory Information" be withheld by notifying the Dean of Admissions and Records in writing each term or semester.



Every semester more than 11,000 students come to the CSM campus for day and evening classes.

Such requests must be submitted within two weeks after the first day of instruction.

"Directory Information" at this College includes: (1) student's name and city of residence; (2) participation in recognized activities and sports; (3) dates of enrollment; (4) degrees and awards received; (5) the most recent previous educational agency or institution attended; and (6) height and weight of members of athletic teams.

A copy of the College Policy, the Family Educational Rights and Privacy Act (Sec. 438, P.L. 93-380) and other pertinent information and forms are available in the Office of Admissions & Records, Administration Building, Room 210, during normal business hours.

Sexual Harassment Policy

It is the policy of San Mateo County Community College District and College of San Mateo to prohibit, in any and all forms, the sexual harassment of its students and staff. Sexual harassment of students by other students or staff, and/or the harassment of staff by students or other staff is considered intolerable behavior that will be investigated and acted upon immediately.

Students or staff seeking further information concerning this policy or claiming grievance because of alleged violations of this policy should contact either Patricia Griffin, Vice President, Student Services, Administration Building, Room 275, telephone 574-6118; or Arnett Caviel, Dean of Special Programs and Services, Administration Building, Room 215, telephone 574-6434.

Smoking Policy

In order to provide a safe learning and working environment for students and employees, smoking is prohibited in all indoor locations and immediately outside a public access doorway to a building. Violation of this policy could lead to disciplinary action under usual disciplinary procedures. For a complete copy of the Smoking Policy and Guidelines, contact the Student Activities Office, Building 5, Room 125. Telephone: 574-6141.

Student Right-to-Know and Campus Security Policy

In order to make College of San Mateo a safe and pleasant environment for students and employees, the College has established procedures in compliance with Federal Public Law 101-542 (Student Right-to-Know and Campus Security Act). Persons seeking information concerning CSM campus law enforcement procedures, crime prevention efforts, and crime statistics should contact the College Security Office, Building 5, Room 111, telephone 574-6415.

The Act also requires institutions to make available the completion or graduation rate of certificate or degree-seeking full-time students. Persons seeking information concerning completion or graduation rates specified by the Act should contact the office of the Dean of Articulation and Research, Building 1, Room 251, telephone 574-6196.

Admission

Students must be admitted to College of San Mateo before they are permitted to register. The first step is to file a written application for admission on a form supplied by the College.

Prospective students should obtain high school and college transcripts from all institutions they have attended and bring these transcripts with them when they come to the campus for counseling and registration. High school transcripts are not required if the applicant has not attended high school within the past five years.

New students, except those specifically exempted from Matriculation requirements, are required to take the CSM Placement Tests (English, Reading, Mathematics) before meeting with a counselor/advisor for program planning. Placement testing times and locations are published in the Schedule of Classes each semester. The lack of English language skills will not be a barrier to enrollment in vocational programs.

Students planning to enroll in the Cosmetology or Nursing program must file a separate application in addition to the application for admission to the College. To obtain the appropriate application form, telephone 574-6363 (Cosmetology), or 574-6219 (Nursing).

Transfer Credits

Credit will be allowed for lower-division work done at other colleges and universities accredited by the Western Association of Schools and Colleges or equivalent accrediting body.

Credit will not be allowed for units awarded at other colleges or universities in the following categories: credit by examination, military schooling credit, military service credit, Advanced Placement credit, College Level Examination Program (CLEP), or credit by other equivalency examinations. See page 18 for College of San Mateo's policy on credit by examination.

All work presented by submission of official transcripts will be evaluated by the Office of Admissions and Records. Such transcripts must be sent directly by the issuing institution to College of San Mateo.

High School Graduates

Normally, graduation from high school or successful completion of the California High School Proficiency Examination or the General Education Development Ex-

amination (GED), with an overall average of 55 and no score below 50, is a prerequisite for admission. Persons over 18 years of age may also be admitted even if they are not high school graduates.

High School Students

Students attending high school as juniors or seniors may register concurrently for CSM classes with the approval of the Dean of Admissions and Records. Interested students must submit a Concurrent Enrollment Application (available from high school counselors) with the required signatures, together with their high school transcript.

A high school grade point average (exclusive of physical education courses) of 2.0 (C) is required for participation in this program. Residency requirements as detailed on this page apply to high school students. Concurrently enrolled high school students are exempted from payment of the enrollment fee and health fee; however, those classified as California non-residents are required to pay non-resident tuition. Because of enrollment limitations, high school students may not be permitted to enroll in classes in certain impacted programs.

In special cases, freshman and sophomore high school students may be considered for admission under the procedure outlined above. However, they must present a letter of recommendation from their principal, and a written statement of the reasons they believe an exception should be made. Students who have not begun their freshman year in high school are ineligible.

California Residency

It is not necessary to be a legal resident of California (as defined in the Education Code) in order to attend College of San Mateo. Students who have not been California residents for a full year before the opening day of a given term must pay a non-resident tuition fee in addition to the fees paid by California residents. See the Index (Residence Requirements) for further details.

Former Students of College of San Mateo

Former students of College of San Mateo are normally eligible to return. However, if they have less than a 2.0 grade point average in courses taken at College of San Mateo, they will be readmitted according to provisions of the current academic standards policy of the College (see Index: "Academic Policy"). Prior to being readmitted, former

students must clear any holds on their records due to unpaid fees, fines, etc.

International Students

College of San Mateo is authorized under Federal law to enroll non-immigrant international students. College of San Mateo does not normally admit persons who enter the United States as visitors (B-1/B-2 visa) to its International (F-1 visa) Student Program. In order to be admitted to the program, an international student must:

1. complete the equivalent of an American high school education with satisfactory grades (normally a B or 3.0 average),
2. demonstrate sufficient command of English to profit from instruction at the College. A minimum score of 480 on TOEFL is required.
3. present evidence of sufficient funds to cover tuition fees and living expenses while attending College of San Mateo. The tuition fee for the 1994-95 academic year is \$118 per unit of credit.
4. provide proof, before registration, of medical insurance coverage or enroll in a medical insurance plan provided for foreign students by San Mateo County Community College District.

International students are required to complete 12 units of class work each semester to maintain their status. Tuition covering the first semester must be paid in full prior to the issuance of the Form I-20 for visa purposes. Under certain circumstances of unforeseen financial hardship, continuing international students may petition for a waiver of the tuition fee.

A special international student application is available from the International Student Center. Telephone: (415) 574-6525. Fax: (415) 574-6680. Applications for the Fall 1995 semester must be filed by April 15, 1995. Applications for the Spring 1996 semester must be filed by September 30, 1995.

Choice of College

Residents of the District may elect to attend College of San Mateo, Cañada College or Skyline College. In the event the capacity of one college is reached, students may be diverted to one of the other colleges. Academic major and date of application will be taken into consideration if such diversion becomes necessary.

Special Programs

Alcohol and Other Drug Program (SPARK)

The SPARK (Support, Prevention, Awareness, Responsibility, Knowledge) Alcohol and Other Drug Program is a federally funded (Fund for the Improvement of Post-Secondary Education) prevention program that targets three distinct populations on campus: the non-user, the occasional user, and the student in recovery. Services include classroom presentations, a resource library, support groups, student groups, a peer mentor and educator program, intervention and counseling. The SPARK Program is located in Building 1, Room 271. For more information please call 574-6465.

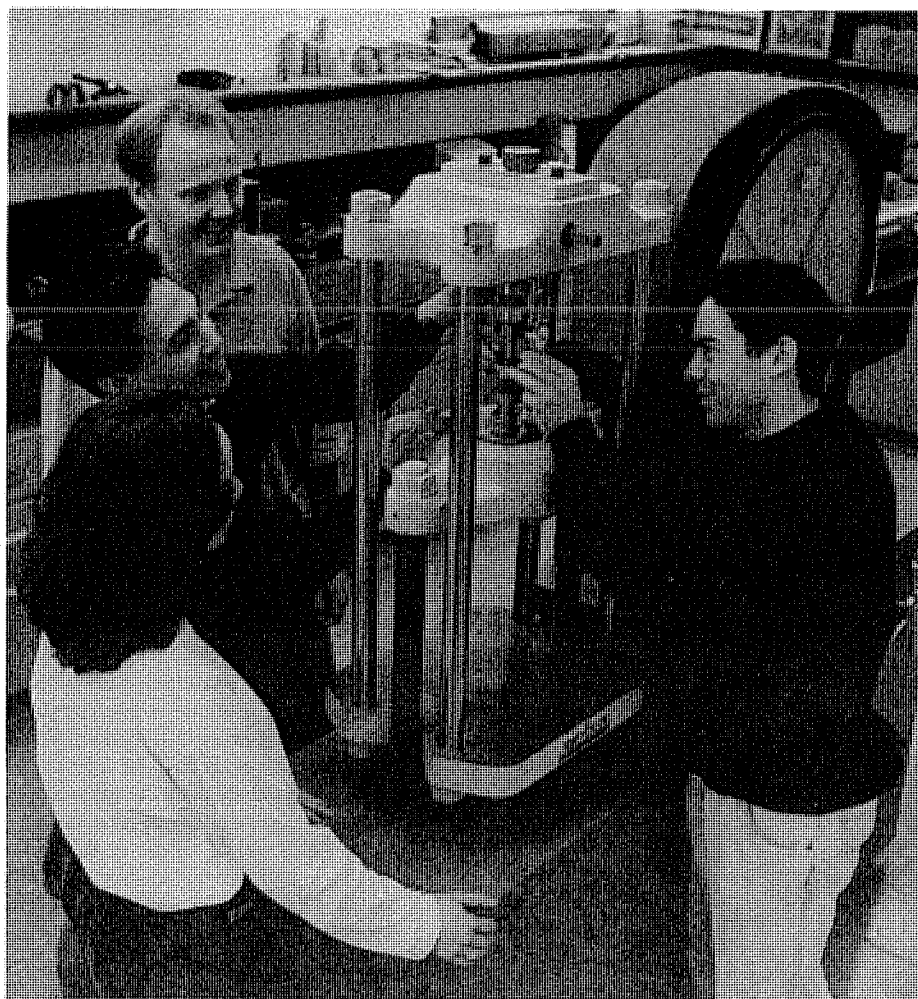
Athletics

College of San Mateo participates as a member of the Coast Conference in the following intercollegiate sports: Baseball, Women's Basketball, Men's and Women's Cross-Country, Women's Tennis, Football, Women's Softball, and Men's and Women's Track and Field.

In order to be eligible a student must adhere to the California State Athletic Code and Coast Conference eligibility rules and regulations.

The following principles pertain to all matters of eligibility:

1. In order to be eligible, a student-athlete must be actively enrolled in a minimum of 12 units during the season of sport. Such eligibility is required for non-conference, conference, and postconference participation.
2. To be eligible for the second season of competition, the student-athlete must complete and pass 24 semester units with a cumulative 2.0 grade point average. These units must be completed prior to the beginning of the semester of the second season of competition. All units must be completed and passed at a regionally accredited post-secondary institution.
3. A student transferring for academic or athletic participation, who has previously participated in intercollegiate athletics at another California Community College, must complete 12 units in residence prior to the beginning of the semester of competition.
4. In order to continue athletic participation in any sport, the student-athlete must



Associate professor of engineering, Mike Kroencke (center), observes students in his materials science class as they test the tensile strength of a steel specimen.

maintain a cumulative 2.0 grade point average in accredited post-secondary course work computed since the start of the semester of first participation.

5. The 12-unit residency rule for previous participants will be waived for a student-athlete who has not competed at a post-secondary institution in the past five years.
6. In meeting the unit requirements, courses in which grades of D, F, or NC were received may be repeated. Under special circumstances, courses that have been completed with a grade of C or better may be repeated; however, the units will not be counted.

Student/athletes who plan to transfer prior to receiving an AA degree should meet with their counselor/advisor and verify eligibility status for transfer based on past work and test scores from high school.

Those students who wish to seek financial assistance (athletic scholarship) and be eligible for competition must meet minimum requirements based on Bylaws, Article 5 in the NCAA manual.

Questions regarding eligibility should be addressed to the Dean of Physical Education/Athletics. Telephone: 574-6461.

Cooperative Admissions Program (CAP)

The colleges of Engineering, Environmental Design, Letters and Science, and Natural Resources at the University of California, Berkeley, offer the Cooperative Admissions Program (CAP) option to freshman applicants who are eligible for admission but cannot be accommodated by the university because of space limitations.

Students who elect the CAP option from UC Berkeley are guaranteed admission to the university as juniors upon completion of specific transfer admission requirements at College of San Mateo. For more information, contact the Transfer Center at 358-6839.

Foreign Study Program

The San Mateo County Community Colleges, in cooperation with the American Institute for Foreign Study, offer students of all ages the opportunity to study and live abroad, earning up to 15 units toward an AA/AS degree which are transferable for Bachelor's degree credit. Current offerings include a London Semester in the fall, a Semester in Paris or Florence in the spring, and a summer program in Costa Rica. Students applying to participate must have completed at least 12 college units with a minimum GPA of 2.0.

Costs, including flights and living accommodations, are reasonable and financial aid is available. Early planning is advisable. For further information, contact the Office of Admissions and Records, Building 1, Room 218, telephone 574-6595.

Honors Program

The CSM Honors Program was established with one goal in mind: to seek out students of exceptional ability and purpose, and to provide these students with the education they merit. The program is open to all students regardless of major, age, or background, and leads to the Associate of Arts/Science degree and/or transfer to the University of California or California State University systems in the junior year.

Affiliation may be at one of three levels:

1. President's Scholar – completes the full Honors Program curriculum before graduation and/or transfer
2. Associate – takes a minimum of one Honors Program course per semester
3. Member – takes a minimum of one Honors Program course in any semester.

Entry requirements vary with level of affiliation, but generally include a grade point average of 3.3 and eligibility for English 100, or other achievements which indicate ability to benefit from honors courses.

President's Scholars will complete approximately 18 units in the program, made up of selected general education breadth courses and a Capstone Thesis in their major. Addi-

tional units will be needed to satisfy degree requirements, and will be taken outside the program. Students interested in applying should talk with their counselor/advisor and the Honors Program Coordinator, Building 15-169, or call 574-6496 or 574-6388.

Instructional Television

College transfer classes are offered by College of San Mateo on television. Telecourses present college-level instructional material for students who wish to gain academic credit for a degree, a certificate or for personal enrichment. The credits earned may be applied to College of San Mateo programs or transferred to most colleges and universities. See the Schedule of Classes for information on course offerings.

Learning Community

A learning community brings together two or more studies conventionally offered as separate courses. A group of students and teachers study together in courses organized around an issue or theme to develop skills and learning strategies that cut across subject matter boundaries and integrate knowledge and problem-solving approaches from different fields. While values intrinsic to each subject are maintained, students work on projects that link the courses and work together to apply skills and concepts from all courses to examine issues thoroughly and communicate their ideas effectively.

The theme for the Fall 1995 semester Manzanita Learning Community is "Nothing but Flowers.... What Does the Future Hold for Us?" Courses offered will be Computer and Information Science 110, English 100, and Math 120. Students will read both non-fiction and fiction, use mathematics to interpret trends and make predictions, write imaginative and analytical essays, and use computers to collect, organize, analyze, and refine data and ideas. During Spring 1996, Biology 110, English 165, and Math 200 will be offered. While students register for the combination of courses, the name of each individual course will appear on the students' transcripts.

In order to participate in the Manzanita Learning Community, students must be eligible for English 100 and Math 120.

Students interested in enrolling should consult with their counselor/advisor or call 574-6528 for further information.

Re-Entry Program

The Re-Entry Program is designed for individuals whose education has been postponed or interrupted. A special Re-Entry class offers the opportunity to evaluate one's interests and abilities through vocational tests and heightened self-awareness. Instruction is provided in basic skills such as text reading, test taking, and educational planning, along with an introduction to campus facilities. Tutorial assistance and child care are available. Support through small group discussions, individual counseling and reading materials is offered in the Career Development Center. Phone 574-6571 for further information.

Summer Intersession

A balanced offering of day and evening summer session classes enables students to accelerate their programs and satisfy course or curriculum requirements. The summer session also affords opportunity to exceptionally able high school students, after completing the sophomore year, to take selected college courses. Further information may be obtained by calling the Office of Admissions and Records, 574-6165.

Registration

Counseling/Advising Appointments

Upon completion of admission requirements, new and returning students will be given an opportunity for counseling/advising prior to registration and the opening of each semester. (See Calendar on page 2.) Most students enrolling in classes must obtain program approval from a counselor/advisor before they register.

Registration Deadlines

Students who have not pre-registered must be in attendance, obtain the instructor's permission, and complete registration in semester-length classes within the first two weeks of instruction. Students in evening classes which meet once a week must be in attendance by the second class meeting. Evening classes meeting twice a week require attendance by the third class meeting in order to register. To add a short course, a student must be in attendance in the course within the first 12% of the class meetings.

Unit Load Limitations

A normal class load for a full-time student is 15 units. No student will be permitted to take more than 19 units without special approval of the counselor/advisor and the Coordinator of Counseling Services. Students working full time should limit their program to six or fewer units. Combinations of work and college study should be carefully discussed with the counselor/advisor.

A program of 12 units or more is considered a full-time load for athletic eligibility, financial aid, international students (F-1 visa), veterans benefits, Social Security benefits, and most other benefits which are dependent upon student enrollment status.

Audit Policy

Students are allowed to register as auditors in a limited number of classes to which the course repetition policy applies if they have previously enrolled for credit for the maximum number of times allowed for the particular course.

Students should register for these classes in the normal manner; they will be notified if they have reached the course repetition

limit and given the opportunity to register as auditors if space is available.

An auditing fee of \$15 per unit is payable at the time of enrollment as an auditor. Auditors are not charged the regular enrollment fee which is paid for credit enrollment. The non-resident tuition fee does not apply to auditors. Students enrolled for credit in 10 or more semester units may audit an additional 3 or fewer units at no charge.

No student auditing a course will be permitted to change enrollment status in that course to receive credit. See the current Schedule of Classes for courses (denoted by an asterisk) that may be audited.

Program Changes

Students wishing to add and/or drop classes must follow the prescribed procedure as outlined in the Schedule of Classes. A withdrawal must be initiated either in person or in writing by the appropriate deadline date; a telephone call is not acceptable. If a withdrawal request is submitted by letter, the letter must be postmarked by the appropriate deadline date (see Calendar of Important Dates, page 2). A student who stops attending a class is not automatically dropped from the roll, and may receive a penalty grade. It is the student's responsibility to withdraw officially from one or more classes, or from all classes, following prescribed timelines and procedures.

Withdrawal from Classes

Students wishing to withdraw from a class must obtain a Petition to Change Program (add/drop form) from their counselor/advisor or the Office of Admissions and Records, Building 1, Second Floor. Official withdrawal is the responsibility of the student. A student who does not withdraw in accordance with established procedures may receive a grade of F.

A student may withdraw from a semester-length class during the first four weeks of instruction and no notation will be made on the student's academic record. In courses of less than a regular semester's duration, a student may withdraw prior to the completion of 30 percent of the scheduled class meetings and no notation will be made on the student's academic record.

After the fourth week of instruction, a student may withdraw from a semester-length class, whether passing or failing, at any time

through the last day of the fourteenth week of instruction; a W grade will be recorded on the student's academic record. In courses of less than a regular semester's duration, a student may withdraw prior to the completion of 75 percent of the scheduled class meetings; a W grade will be recorded on the student's academic record.

A student who must withdraw for verifiable extenuating circumstances after the deadline (i.e., personal illness, automobile accident, death or severe illness in the immediate family or other severe physical or emotional hardship) may petition the Academic Standards Committee for an exception to this policy. Any extenuating circumstance must be verified in writing (i.e., letter from physician, official accident report, obituary notice, etc.).

The academic record of a student who remains in class beyond the time periods set forth above must reflect an authorized symbol other than W (see Index: "Grades, Grade Points").

A student failing to follow established withdrawal procedures may be assigned an F grade by the instructor.

Military Withdrawal

Military withdrawal may be requested 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, a military withdrawal symbol (MW) will be assigned for each course if the withdrawal occurs after the period during which no notation is made for withdrawals on the student's record. Military withdrawals are not counted in progress probation and dismissal calculations. Students granted military withdrawal may request refund of the enrollment fee. The entire enrollment fee will be refunded unless academic credit has been awarded.

Fees

Note: The fees listed in this Catalog are those in effect at the time of publication. Fees are subject to change at any time by action of the State Legislature, Board of Governors of the California Community Colleges, or District Board of Trustees.

Enrollment Fee

A State-mandated enrollment fee of \$13 per unit is payable at the time of registration. The enrollment fee is \$50 per unit for most California resident students who have previously been awarded a Bachelor's or graduate degree from any public or private postsecondary educational institution which is accredited by an agency recognized by the U.S. Department of Education, approved to operate by the Council for Private Postsecondary and Vocational Education, or operated pursuant to Education Code Section 94303. See the section titled "Enrollment Fee Exceptions" below for exceptions to the applicability of the \$50 per unit fee.

The Board of Governors of the California Community Colleges has established a grant program to help low income students pay the enrollment fee. Information on eligibility requirements and application deadlines, as well as application forms, are available in the Financial Aid Office.

In addition to other costs, students classified as non-residents of the state of California must pay a tuition fee. See details under Non-Resident Tuition Fee.

Enrollment Fee Exceptions

State law permits California resident students with a Bachelor's or graduate degree to pay an enrollment fee of \$13 per unit (instead of \$50 per unit) if they are any one of the following: (1) a dislocated worker, as certified by a State agency; (2) a displaced homemaker, as specifically defined by federal statute; (3) a recipient of benefits under the Aid to Families with Dependent Children program, the Supplemental Security Income/State Supplementary Program, or a general assistance program; or (4) students who meet income standards established by the Board of Governors.

Students whose Bachelor's or graduate degrees were awarded by a college or university in a country other than the United States are permitted to pay an enrollment fee of \$13 per unit (instead of \$50 per unit) unless the degree-awarding institution is accredited

by an American accrediting agency. Students holding foreign degrees should contact the Office of Admissions and Records to obtain a Foreign Degree Fee Waiver form in order to request reclassification to the \$13 per unit rate.

The California Employment Development Department will certify as dislocated workers individuals who:

(A) have been terminated or laid off or have received a notice of termination or layoff from employment, are eligible for or have exhausted their entitlement to unemployment compensation, and are unlikely to return to their previous industry or occupation; *or*

(B) have been terminated or have received a notice of termination of employment, as a result of any permanent closure of or any substantial layoff at a plant, facility or enterprise; *or*

(C) are long-term unemployed and have limited opportunities for employment or re-employment in the same or a similar occupation in the area in which such individuals reside, including older individuals who may have substantial barriers to employment by reason of age; *or*

(D) were self-employed (including farmers and ranchers) and are unemployed as a result of general economic conditions in the community in which they reside or because of natural disasters as established by the Secretary of Labor.

A displaced homemaker is defined as an individual who:

(A) has not worked in the labor force for five years or more but has, during those years, worked in the home providing unpaid services for family members; *and*

(B) is an adult and has been dependent on public assistance or on the income of another family member, but is no longer receiving such assistance or income; *and*

(C) is unemployed or underemployed and experiencing difficulty in obtaining or upgrading employment.

The Financial Aid Office at College of San Mateo will evaluate and certify eligibility for exemption based on Board of Governor income standards.

California resident students holding a Bachelor's or graduate degree who qualify for this special fee exception may request and submit an *Enrollment Fee Exception Form*, attesting to the particular reason they qualify for the exception and signing the

form under penalty of perjury and dismissal. The form and further information is available from the Office of Admissions and Records.

Other students with bachelor's or higher degrees who are eligible to pay the \$13 enrollment fee rather than \$50 per unit are:

(1) enrollees in a course offered pursuant to a contract between the College and a public or private entity if (A) the contract provides for the payment by the public or private entity of all costs associated with the course and (B) the course is not funded through State apportionment;

(2) employees or volunteers of a public agency that provides police, fire protection, corrections, probation, emergency medical, or emergency medical dispatch services, for any course taken for the purpose of fulfilling a State-mandated training requirement in the curriculum identified and approved by one of several designated State agencies.

Dependents of certain veterans (a very limited number of special cases) are eligible to enroll without payment of any tuition or fees. To qualify for this special exception, students must be certified by the Department of Veterans Affairs as one of the following:

(1) any dependent eligible to receive assistance under Article 2 (commencing with Section 890) of Chapter 4 of Division 4 of the Military and Veterans Code;

(2) any child of any veteran of the United States military who has a service-connected disability, has been killed in service, or has died of a service-connected disability, where the Department of Veterans Affairs determines the child eligible on the basis that the annual income of the child, including the value of any support received from a parent, does not exceed seven thousand dollars (\$7,000);

(3) any dependent, or surviving spouse who has not remarried, of any member of the California National Guard who, in the line of duty, and while in the active service of the state, was killed, died of a disability resulting from an event that occurred while in the active service of the state, or is permanently disabled as a result of an event that occurred while in the active service of the state.

California resident students holding a Bachelor's or graduate degree who qualify for this special fee exception may request and submit an *Enrollment Fee Exception Form*, attesting to the particular reason they

qualify for the exception and signing the form under penalty of perjury and dismissal. The form is available from the Office of Admissions and Records.

Health Fee

All students, except those registering only for telecourses, off-campus classes or weekend classes, and except high school students enrolling through the Concurrent Enrollment Program, are required to pay a non-refundable \$10 health fee each semester at the time of registration for day or evening classes. The summer session health fee is \$7. In addition to campus health services, the fee provides accident insurance coverage which is in effect when the student is on campus or attending a College-sponsored event.

Under certain circumstances a student may be exempted from paying the health fee on religious grounds. Further information is available from Patricia Griffin, Vice President, Student Services, Building 1, Room 273 (574-6118).

Student Representation Fee

A representation fee of \$1 per student per semester was established by an election of the student body at College of San Mateo. Under applicable provisions of the Education Code, the students established the representation fee by a two-thirds majority of students who voted in the election.

The money collected through this fee will be expended to provide support for students or their representatives who may be stating their positions and viewpoints before city, county, and district government and before offices and agencies of the local, State, and Federal government.

A student has the right to refuse to pay the student representation fee for religious, political, moral or financial reasons. The fee is not covered by financial aid and is not refundable unless an action of the College prevents the student from attending.

Parking Fee

All persons driving motor vehicles onto campus and utilizing the parking facilities during regular class hours, including final examinations, are required to pay a parking fee. Parking permits are not required however for students enrolling in classes which meet only on Saturday. Student parking permits are available for \$20 per semester (\$10.00 for summer session). One-day parking permits (75 cents) for all student lots are available at the Security Office.

Permits may be purchased during the registration process. Parking fees are not refundable unless an action of the College (e.g., cancellation of the class) prevents a student from attending class. Parking is on a first-come, first-served basis. A permit is not a guarantee of a parking space. The College and San Mateo County Community College District accept no liability for vandalism, theft or accidents. Use of parking facilities is at the user's risk. Parking and traffic regulations are enforced by the Campus Security Office staff, and violators are cited to the Municipal Court. The College reserves the right to change parking requirements for special events.

For further information, contact the Campus Security Office, which is open Monday through Friday from 7:45 a.m. to 8:00 p.m. and on Fridays from 7:45 a.m. to 3:00 p.m. when classes are in session. The Security Office is located in the Student Center Building; telephone 574-6415.

Associated Students Fee (optional)

The voluntary Associated Students Fee is \$5 per semester, payable at the time of registration, or in the Student Activities Office.

Those who pay the fee receive an Associated Students "Express Card" which entitles them to special discounts at local businesses, movie theaters, shops, restaurants, and for on-campus products and services including Café International discounts, Cosmetology Department hair care, and Athletic events. Funds collected also help support student activities, services and scholarships.

Non-Resident Tuition Fee

No tuition is charged to legal residents of California. Students who have not been residents of California (as defined in the Education Code) for one year or longer prior to the beginning of a term are required to pay a non-resident tuition fee of \$118 per unit (in 1995-96) at the time of registration in addition to the \$13 per unit enrollment fee. Residency status is determined by the Office of Admissions and Records.

In general, an unmarried minor (a person under 18 years of age) derives legal residence from his/her father (or his/her mother if the father is deceased), or, if the case of permanent separation of the parents, from the parent with whom the minor maintains his/her abode. The residence of a minor cannot be changed by act of the minor or that of the minor's guardian while the minor's parents are living.

An adult must take steps to establish legal residency in California at least one year prior to the beginning of the term in order to be classified as a resident student for that term. Information concerning acceptable documentation of intent to establish and maintain California residency is available in the Office of Admissions and Records.

Other Expenses

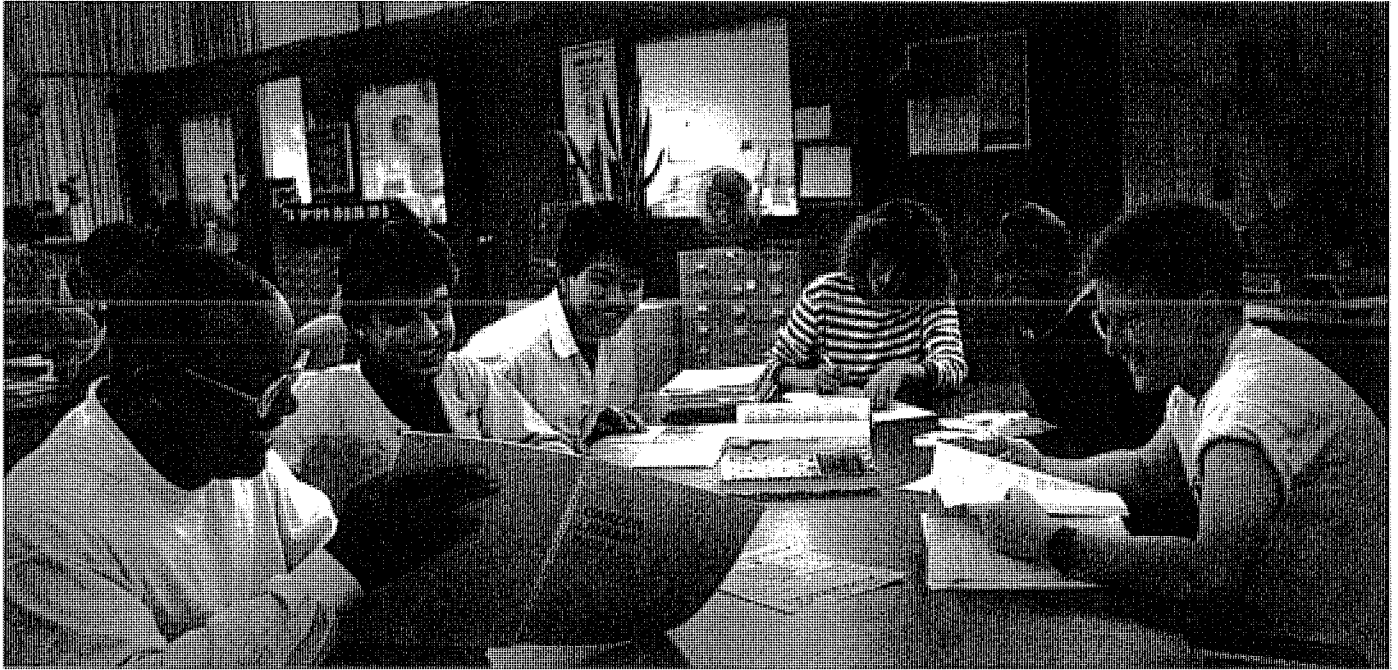
Students must purchase their own textbooks and supplies. A considerable saving is possible through the purchase of used texts from the on-campus College of San Mateo Bookstore. Excluding living and transportation costs, the total of all expenses for a full-time student should not exceed \$500 per semester for California residents. Special equipment is needed for certain programs such as Electronics, Drafting, Nursing, Cosmetology, Engineering, Art and Architecture, involving an additional initial outlay ranging from \$100 to \$450. Please refer to course descriptions for special costs.

Fee Refund Policy

Note: Refunds are not issued automatically. When a student is entitled to a refund, he/she must contact the Cashier's Office to make arrangement for reimbursement. Fees paid by personal check require one month for bank clearance before refunds can be issued.

Enrollment Fee

1. A student who cancels registration prior to the beginning of classes, or officially withdraws from all classes prior to the close of business on the date established in the college schedule as the last day to add semester-length classes is entitled to a full enrollment fee refund less a \$10 processing fee.
2. A student enrolled in Summer Session or exclusively in short courses who cancels registration prior to the beginning of those classes, or who officially withdraws from those classes during the first 10% of the number of class meetings is entitled to a full enrollment fee refund less a \$10 processing fee. For classes with ten or fewer meetings, the withdrawal deadline for an enrollment fee refund is the date of the first class meeting.
3. A student who officially completes a change of program within the prescribed period, and as a result reduces the number of units in which he/she is enrolled, is en-



Students and community members can find a wealth of resources in the Career Development Center. Included are an extensive library, seminars, short courses and individual and group career counseling.

titled to a refund if the student remains enrolled in at least one unit. Such a student shall not be subject to the processing fee.

4. A processing fee may be charged only once per each semester or session. If a student pays an enrollment fee of less than \$10, and cancels his/her registration or withdraws from all classes before the deadline, the processing fee shall equal the enrollment fee.

5. Credit balances reflecting refunds will be carried by the District for five years unless redeemed by the student. After that time, the student will not be eligible for the credit or refund.

6. The enrollment fee will be fully refunded if an action of the College (e.g., class cancellation) prevents a student from attending class.

7. Students who withdraw from classes after the refund deadlines will not be eligible for an enrollment fee refund or credit. No enrollment fee refund or credit is available to students enrolled in variable unit courses who earn fewer units of credit than the number for which they are enrolled. A withdrawal initiated by the instructor will not result in a refund.

Non-Resident Tuition Fee

Non-resident tuition fees shall be refunded in whole or in part in accordance with the following guidelines for semester-length classes:

1. A student is entitled to a full tuition refund if tuition has been collected in error.
2. A student who cancels his/her registration prior to the beginning of classes, or who officially withdraws from all classes by Friday of the fourth week of the semester is eligible for a full refund less a \$50 processing fee.
3. A student who officially reduces his/her program prior to Friday of the fourth week of the semester is eligible to receive a full refund for the units dropped if the student remains enrolled in at least one-half unit.
4. A student who officially withdraws or reduces his/her program after Friday of the fourth week of the semester is not eligible for a refund.

Non-resident tuition fees for Summer Session and short courses shall be refunded in whole or in part in accordance with the following guidelines:

1. A student is entitled to a full refund if tuition has been collected in error.

2. A student who cancels registration prior to the beginning of classes, or who officially withdraws prior to the completion of **thirty percent (30%) of the scheduled class meetings** will be eligible for a full non-resident tuition refund less a \$50 processing fee or for the units dropped if the student remains enrolled in at least one-half unit. For example, a student enrolled in a short course with ten class meetings must withdraw by the date of the third class meeting to be eligible for a non-resident tuition refund.

3. A student who officially withdraws on or after the completion of **thirty percent (30%) of the scheduled class meetings** shall not be eligible for a refund.

Exceptions to the policy on the refund of **non-resident tuition** may be authorized by the Vice President for Student Services in cases of unique or extraordinary circumstances beyond the control of the student.

Health, Student Representation, and Parking Fees

Health, Student Representation, and Parking fees **are not** refundable unless an action of the College (e.g., class cancellation) prevents the student from attending.

Associated Students Fee

Requests for refunds may be made at the Student Activities Office (Building 5, Room 125).

Grades and Scholarship

Units of Work and Credit

A unit of college credit normally represents one hour each week of lecture or three hours of laboratory, or similar scheduled activity, during one full semester.

Grades, Grade Point Average and Grading Symbols

Grades from a grading scale are averaged on the basis of their point equivalencies to determine a student's grade point average. The highest grade (A) receives four points, and the lowest grade (F) receives 0 points, using only the following evaluative symbols.

Symbol	Definition	Grade Points
A	Excellent	4
B	Good	3
C	Satisfactory	2
D	Passing, less than satisfactory	1
F	Failing	0
*CR	Credit (at least satisfactory; units awarded not counted in GPA)	
*NC	No Credit (less than satisfactory or failing; units not counted in GPA)	
I	Incomplete	0
IP	In Progress	0
MW	Military Withdrawal	0
RD	Report Delayed	0
W	Withdrawal	0

*Used in courses in which grades of Credit or No Credit are given. The units earned with a grade of Credit count as units completed. No Credit means the student is not charged with units attempted and is not credited with units completed.

I - Incomplete

This symbol is used in case of incomplete academic work for unforeseeable, emergency and justifiable reasons. Conditions for removal are set forth by the instructor in a written record which also indicates the grade to be assigned in the event that the student fails to meet the stated conditions. The student will receive a copy of this record, and a copy will be filed by the Dean of Admissions and Records. A final grade will be assigned by the instructor when the stipulated work has been completed and evaluated. In the event that the work is not completed within the prescribed time period, the grade previously determined by the instructor will be entered in the permanent record by the Dean of Admissions and Records.

An Incomplete must be made up no later than one year following the end of the term in which it was assigned. Established College procedures may be utilized to request a time extension in cases involving unusual circumstances. The I shall not be used in the computation of grade point average.

IP - In Progress

This symbol is used in the student's permanent record to confirm enrollment and to indicate that the class extends beyond the normal end of the term. It indicates that work is in progress and that unit credit and a grade will be assigned when the course is completed.

The IP is not be used in the computation of grade point average.

MW - Military Withdrawal

See Index: "Military Withdrawal."

RD - Report Delayed

This symbol is used only by the Dean of Admissions and Records for the purpose of indicating that there has been a delay in reporting the grade due to circumstances beyond the student's control. It is replaced by a permanent symbol as soon as possible.

The RD is not be used in the computation of grade point average.

W - Withdrawal

See Index: "Withdrawal from Classes."

Credit/No Credit Option

Each division of the College may designate courses in which a student may elect to receive a letter grade or be graded on a Credit/No Credit basis.

Grade option courses allow students to explore various fields of study and to broaden their knowledge, particularly outside their major field, without jeopardizing their grade point average. Courses in which such option exists will be so designated by the Division Dean in consultation with appropriate members of the division faculty.

Students electing a Credit/No Credit option must submit the appropriate form to the Office of Admissions and Records within the first 30% of the term. Changes will not be permitted after this time.

The utilization of courses graded on a Credit/No Credit basis to satisfy major or certificate requirements must be approved by the Division Dean in consultation with appropriate members of the division faculty. A maximum of 12 units toward an Associate degree or 6 units toward a certificate may be applied from courses in which the student has elected a Credit/No Credit option. Additionally, each division of the College may

determine certain courses in which all students are evaluated on a Credit/No Credit basis only. These courses will be so identified in the class schedule and are exempt from the above 12/6 unit limitation.

Four-year colleges and universities vary widely in the number of units of Credit/No Credit courses they accept. Students should consult the catalog of the college to which they may transfer for its regulations in this regard.

Final Examinations

Final examinations are required and will be given in accordance with the final examination schedule. The final examination schedule is printed in the class schedule so that students may plan their programs to avoid conflicts or an excessive load.

Grade Reports

A student is held responsible for his/her own academic progress. Grade reports are mailed to each student at mid-semester. Following final examinations at the end of the semester, the student is informed of his/her final grades which serve as the basis for computing the student's standing.

Honors

Scholarship Honors

College of San Mateo is affiliated with the California Community College Honor Scholarship Society, Alpha Gamma Sigma. The local chapter is the Eta Chapter. Students carrying 12 units or more of graded classes in a semester and who achieve a GPA of 3.30 or higher in their semester course work will be recognized at end of the semester by inclusion on the Dean's List of Honor Students. Eligibility for permanent membership in Alpha Gamma Sigma is recognized at commencement if the graduating student has maintained a cumulative GPA of 3.5 or higher for all recognized college work. For further information students should consult the faculty advisor for Alpha Gamma Sigma.

Honors at Graduation

Honors are awarded at graduation based upon cumulative GPA as follows:
 3.30 - 3.49 Graduation with Honors
 3.50 - 4.00 Graduation with High Honors

Student Responsibilities

Conduct

The principle of personal honor is the basis for student conduct. The honor system rests on the sincere belief that College of San Mateo students are mature and self-respecting, and can be relied upon to act as responsible and ethical members of society. Each individual has the obligation to observe the College code of rules and regulations.

Social or other functions using the name of the College are thereby identified as College functions and become subject to the same standards of conduct and of supervision, whether conducted on or off the campus.

Social or other functions for which no College staff member is listed as a sponsor are not considered College functions. Further, no off-campus organizations may use the name or imply College sponsorship in any publicity or other information.

Any student may be subject to disciplinary action, including suspension and/or expulsion, if his/her actions on campus are disruptive or are in violation of College rules and regulations. In cases involving disciplinary action, the student will have access to established appeals procedures.

Student Grievances and Appeals

Students are encouraged to pursue their academic studies and become involved in other sponsored activities that promote their intellectual growth and personal development. The College is committed to the concept that, in the pursuit of these ends, the student should be 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/she has been subject to unjust actions, or denied his/her rights, redress can be sought through the filing of an appeal or grievance. Detailed information is provided in the Student Handbook, which is available at the Student Activities Office. For further information concerning any aspect of student grievances or rights of appeal, students should contact the Office of the Vice President, Student Services.

Fines

Fines are assessed for failure to comply promptly with library regulations, and students are also required to pay for careless or unnecessary damage to College property. Students who are delinquent in their financial obligations to the College may not receive grade reports or other records of their work until such delinquencies have been adjusted to the satisfaction of the College authorities. Future admission/registration may be denied until these delinquencies are removed.

Secret Organizations

Sororities and fraternities and other secret organizations are banned on community college campuses under the Education Code of the State of California.

Extended Absence

Students who will be absent from any class or classes for one week or longer for any health reason should request notification to instructors by the Student Health Center. Telephone: 574-6396.

Students who will be absent from any class or classes for one week or longer for other personal emergencies should request notification to instructors by the Dean of Counseling, Advising and Matriculation (see Index: "Attendance Regulations").

If a medical or personal emergency requires absence of more than one week, the student should consult with his/her instructors and counselor/advisor regarding the advisability of continuing in classes.

Withdrawal from Individual Classes

There are established procedures for withdrawing from a portion of your college program (see Index: "Program Changes").

Withdrawal from College

Students who must withdraw from all their classes after registration may obtain a Petition to Withdraw from All Classes from their assigned counselor/advisor. Students not assigned to a counselor/advisor may obtain this petition from the Counseling Center, Building 1, Room 130. The completed form is to be returned within five college days to the Office of Admissions and Records, Building 1, second floor. Failure to withdraw officially may result in grades of F (see Index: "Program Changes").

Evening class withdrawal forms are available in the Office of Admissions and Records. Failure to withdraw officially may result in penalty grades of F.

If a student stops attending without withdrawing officially and is not dropped by the instructors for non-attendance by the deadline date, the instructors will be required to issue a letter grade - NOT a W. Under extenuating circumstances (i.e., personal illness, automobile accident, death or severe illness in the immediate family or other severe physical or emotional hardship) a student may petition for a W after the deadline date. Any extenuating circumstance must be verified in writing (i.e., letter from physician, official accident report, obituary notice, etc.). Petition forms are available from and submitted to the Office of Special Programs and Services (Building 1, Room 215, telephone 574-6434).

Leave of Absence

College policy permits the granting of a leave of absence to students who must withdraw from all their classes in cases involving extenuating circumstances, defined as verified cases of accident, illness, or other extraordinary circumstances beyond the control of the student.

A semester for which a student is granted a leave of absence is not included in the determination of academic progress. Satisfactory academic progress must be maintained in order to avoid probation or dismissal under the CSM Academic Standards Policy.

Academic Policies

Academic Standards Policy

The Academic Standards Policy of College of San Mateo and the San Mateo County Community College District is based on a cumulative grade point average of C (2.0), the minimum standard required for graduation or transfer. A grade point average of less than 2.0 is considered deficient.

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

Academic standing, including determination of probation or dismissal status, is based upon all course work completed at Cañada College, College of San Mateo, and/or Skyline College.

Probation

A student is placed on academic probation under the following criteria:

1. Academic Probation based on grade point average: A student who has attempted at least 12 semester units, as shown by official records, is placed on academic probation if the student has earned a cumulative grade point average below 2.0.
2. Academic probation based on failure to maintain satisfactory progress: A student who has enrolled in a total of at least 12 semester units, as shown by official records, is placed on academic probation when the percentage of all units in which a student has enrolled for which entries of W, I and NC are recorded reaches or exceeds 50 percent. (See Calendar for deadline dates for withdrawal.)

The two probation criteria described above are applied in such a manner that a student may be placed on probation under either or both systems and subsequently may be dismissed under either or both systems.

A student on probation may petition the Academic Standards Committee, in accordance with College procedures, for removal from probation if that status has resulted from unusual circumstances beyond the student's control.

Removal From Probation

A student on academic probation on the basis of grade point average is removed from probation when his/her cumulative grade point average is 2.0 or higher.

A student on academic probation on the basis of failure to maintain satisfactory progress is removed from probation when the percentage of units in this category no longer equals or exceeds 50 percent.

Dismissal

A student on probation is subject to dismissal if in any two subsequent semesters either or both of the following criteria are applicable:

1. The student's cumulative grade point average is less than 1.75 in all units attempted.
2. The cumulative total of units in which the student has been enrolled for which entries of W, I and NC have been recorded reaches or exceeds 50 percent. (See "Withdrawal from Classes.")

Normally, a dismissed student must remain out of day and evening classes for one semester before petitioning the Academic Standards Committee for reinstatement.

A dismissed student may present a written appeal and appropriate documentation to the Academic Standards Committee requesting immediate reinstatement if dismissal has resulted from unusual circumstances. A registered student making such an appeal should remain in classes until the decision of the Academic Standards Committee is made. Petitions are available in the Office of Special Programs and Services.

Academic Renewal Policy

A maximum of two semesters and one summer session of work which is substandard (i.e., less than a 2.0 grade point average) and not reflective of the student's present scholastic level of performance may be alleviated and disregarded in the computation of grade point average under the following conditions:

1. The academic renewal policy will be applied only when alleviation of prior work is necessary to qualify a student for admission to a program, for transfer to another institution, or for graduation from or completion of a certificate program at Cañada College, College of San

Mateo or Skyline College. It is the responsibility of the student to establish that this condition is met.

2. A period of at least three years must have elapsed since the work to be alleviated was completed.
3. A semester is defined as all work done during a single academic term. The terms need not be consecutive. Only full semesters of substandard work can be alleviated; the policy cannot be applied to single courses.
4. A student seeking alleviation must have completed 9 units of work with a 3.5 cumulative grade point average, or 15 units with a 3.0 cumulative grade point average, or 21 units with a 2.5 cumulative grade point average, or 24 units with a 2.0 cumulative grade point average since the work to be alleviated was completed.
5. The substandard work to be alleviated may have been completed at any college or university; however, the work upon which the application for alleviation is based must be completed at one of the San Mateo County Community Colleges.

Determination of the applicability of this policy will be made only following formal application to the Office of Admissions and Records. When academic work is alleviated, the permanent record is appropriately annotated in a manner to ensure that all entries are legible and that a true and complete record is maintained.

Attendance Regulations

Students are strongly advised to attend the first class meeting of each class in which they register. If they cannot attend, they should notify the instructor in advance. Without prior notification, they may be dropped by the instructor and a waiting student admitted in their place.

Regular attendance in class and laboratory sessions is an obligation assumed by every student at the time of registration. By being absent from class, the student misses both the content of the particular session and the continuity of the course as developed in a single period of work. When a student's failure to attend class places his/her success in jeopardy, the instructor may drop the student from class.

In all cases it is the instructor's prerogative to determine when absences are excessive. An instructor has the right to drop a student from class when such absences jeopardize the student's opportunity to successfully

complete the class work or to benefit from the instruction. A guideline used by many instructors is that excessive absence is represented by twice the number of hours the class meets in one week for semester-long classes and one-ninth of scheduled meetings in classes which meet for less than a full semester.

Absence means non-attendance and includes non-attendance for illness or personal emergency. Absences due to a student's participation in a school-sponsored activity are to be considered as excused absences, but it is the student's responsibility to notify the instructor in advance of the absence, and the student is responsible for all work missed. It is noted again that it is the instructor's prerogative to determine when such absences are excessive.

Any student dropped from a class because of this regulation may appeal in writing to the Attendance Committee within five academic calendar days of the drop if there are extenuating circumstances. A student making such an appeal may, with the permission of the instructor, remain in class until the decision of the Attendance Committee is reached. The Attendance Committee will make a recommendation to the instructor after considering such an appeal. Appeals are to be submitted to the Office of Special Programs and Services.

Open Enrollment

Every course offered at College of San Mateo (unless specifically exempted by legal statute) is open for enrollment and participation by any person who has been admitted to the College and who meets the prerequisites of the course provided that space is available.

Sequential Courses

To enroll in and receive credit for sequential courses, students must complete the courses in order—e.g., English 800 must be completed before English 100. Also, a student may not enroll in or receive credit for a course taken after successful completion of an equivalent course—e.g., French 111 cannot be taken after successful completion of French 110.

Credit by Examination

A currently enrolled student may be permitted to obtain credit for a limited number of specifically designated courses, if he/she is especially qualified through previous training or instruction and can demonstrate such qualifications, by successfully completing an examination approved by the appropriate division. Interested students should contact the appropriate Instructional Division Office to inquire whether a particular course has been designated for Credit by Examination. Petitions for Credit by Examination are available in the Office of Admissions and Records.

Credit will not be allowed for a course for which credit has been previously granted or for which credit has been earned in a more advanced course in the same sequence. A student may earn up to 12 units through credit by examination, which will be applied toward the A.A./A.S. degree. Units earned by examination will NOT be counted for financial aid purposes.

A student may challenge a course for credit by examination only one time. A challenge examination may not be used in order to improve a grade already received for a course.

Credit may also be earned through certain Advanced Placement Examinations (see Advanced Placement Examination Credit on next page) and completion of certain specialized certificate/license programs.

Academic Review Committee

The Academic Review Committee considers requests for waivers and/or exceptions with respect to academic policies. Inquiries should be directed to the Office of Admissions and Records.

Course Repetition

A. Repeated for Credit

The Board of Trustees of San Mateo County Community College District has adopted a policy (District Rules and Regulations, Section 6.12) which permits a student to repeat certain courses for credit a maximum of 3 times (for a total of four class enrollments). These courses require increasing levels of student performance or provide significantly different course content each subsequent semester. Such courses are designated as "may be repeated for credit" in the College

catalog. Courses which are not so designated may not be repeated under this policy. Further information on this policy is available from counselors/advisors.

B. Grade Alleviation

A student who has received a grade of D, F, or NC in a course taken at a college of the San Mateo County Community College District may repeat the course one time at College of San Mateo for the purpose of grade alleviation. Under unusual circumstances, a student may petition the Vice President, Student Services, for permission to repeat a course more than once. Upon satisfactory completion of the repeated course, the student may petition the Office of Admissions and Records to have the grade of the repeated course used in computation of the grade-point average. The original grade will remain on the transcript, but will no longer affect the grade point average. The permanent academic record shall be annotated in such a way that all courses attempted will be indicated on the transcript in showing a true and complete academic history.

Course repetition completed at any college of the San Mateo County Community College District will be honored; course repetition involving work completed at a non-district institution may be honored. Students may apply for such consideration to the Office of Admissions and Records. In no case will the unit value of a course be counted more than once. Courses in which the student has received grades other than those of D, F or NC are not subject to the provisions of this policy.

C. Special Circumstances

Under special educationally justifiable circumstances, repetition of credit courses other than those for which substandard work has been recorded may be permitted. The student must obtain prior written permission from a counselor/advisor before such course repetition will be authorized. Normally, a student may repeat such a course only once. Under unusual circumstances, a student may petition the Vice President, Student Services, for permission to repeat a course more than once. When evaluating a student's transcript for graduation, grades awarded for courses repeated under this provision are not considered in calculating the student's grade point average, and in no case is the unit value of the repeated course counted more than once.

Advanced Placement Examination Credit

College of San Mateo gives credit or placement to currently enrolled students who have completed the College Board Advanced Placement Exams in art, music, social science, English, foreign language, mathematics and/or science as follows.

CREATIVE ARTS

A.P. Test Score

A.P. Test	3	4	5
Art: History	No credit given	No credit given	Credit for: ART 101 3 units
Art: Studio Drawing	ART 301 waived as a prerequisite	ART 301 waived as a prerequisite	ART 301 waived as a prerequisite
Art: Studio General	ART 351, ART 405 and ART 411 waived as prerequisites	ART 351, ART 405 and ART 411 waived as prerequisites	ART 351, ART 405 and ART 411 waived as prerequisites
Music Listening and Literature	Credit for: MUS. 202 3 units	Credit for: MUS 202 3 units	Credit for: MUS 202 3 units
Music Theory	MUS. 101 and MUS. 131 waived as prerequisites	MUS. 101 and MUS. 131 waived as prerequisites	MUS. 101 and MUS. 131 waived as prerequisites

SOCIAL SCIENCE

A.P. Test Score

A.P. Test	3	4	5
U.S. History	Credit for HIST 201 and HIST 202 6 units	Credit for: HIST 201 and HIST 202 6 units	Credit for: HIST 201 and HIST 202 6 units
Economics/Macro	No credit given	Credit for: ECON 100 3 units	Credit for: ECON 100 3 units
Economics/Micro	No credit given	Credit for: ECON 102 3 units	Credit for: ECON 102 3 units
European History	3 units credit toward Social Science GE requirement for AA/AS degree	3 units credit toward Social Science GE requirement for AA/AS degree	3 units credit toward Social Science GE requirement for AA/AS degree
Government and Politics/U.S.	Credit for: PLSC 210 3 units	Credit for: PLSC 210 3 units	Credit for: PLSC 210 3 units
Government and Politics/Comparative	Credit for: PLSC 110 3 units	Credit for: PLSC 110 3 units	Credit for: PLSC 110 3 units
Psychology	Credit for: PSYC 100 3 units	Credit for: PSYC 100 3 units	Credit for: PSYC 100 3 units

MATH/SCIENCE

A.P. Test Score

A.P. Test	3	4	5
Biology	Credit for: BIOL 110 4 units	Credit for: BIOL 110 4 units	Credit for: BIOL 110 4 units
Chemistry	Credit for: CHEM 192 4 units	Credit for: CHEM 210 5 units	Credit for: CHEM 210 and CHEM 220 10 units
Computer Science A	Credit for: CIS 250 and CIS 251 4 units	Credit for: CIS 250 and CIS 251 4 units	Credit for: CIS 250 and CIS 251 4 units
Computer Science AB	Credit for: CIS 250 and CIS 251 4 units	Credit for: CIS 250 and CIS 251 4 units	Credit for: CIS 250 and CIS 251 4 units
Mathematics/ Calculus AB	No credit given	Credit for: MATH 251 5 units	Credit for: MATH 251 5 units
Mathematics/ Calculus BC	Credit for: MATH 251 5 units	Credit for: MATH 251 and MATH 252 10 units	Credit for: MATH 251 and MATH 252 10 units
Physics B	Credit for: PHYS 100 3 units	Credit for: PHYS 100 3 units	Credit for: PHYS 210 and PHYS 220 8 units
Physics C: Mechanics	No credit given	No credit given	No credit given
Physics C: E. and M.	No credit given	No credit given	No credit given

LANGUAGE ARTS

A.P. Test Score

A.P. Test	3	4	5
English Language and Composition	No Credit; May enroll in ENGL 100	Credit for: ENGL 100 3 units	Credit for: ENGL 100 and ENGL 110 6 units
English Literature and Composition	No Credit; May enroll in ENGL 100	Credit for: ENGL 100 3 units	Credit for: ENGL 100 and ENGL 110 6 units
French Language	No Credit; May enroll in FREN 131	Credit for: FREN 131 3 units	Credit for: FREN 132 3 units
French Literature	No Credit; May enroll in FREN 161	Credit for: FREN 161 3 units	Credit for: FREN 162 3 units
German Language	No Credit; May enroll in GERM 131	Credit for: GERM 131 3 units	Credit for: GERM 132 3 units
Latin/Vergil	Not Applicable	Not Applicable	Not Applicable
Latin/Catullus-Horace	Not Applicable	Not Applicable	Not Applicable
Spanish Language	No Credit; May enroll in SPAN 131	Credit for: SPAN 131 3 units	Credit for: SPAN 132 3 units
Spanish Literature	No Credit; May enroll in SPAN 161	Credit for: SPAN 161 3 units	Credit for: SPAN 162 3 units

Instructional Resources

Library

With its panoramic view of the Bay Area, the three-story Library is an inviting place in which both students and faculty may study, browse, and research. The Library collections, designed to meet and support the varied learning needs of students, reflect over 60 years of careful selection.

The main floor houses reference services and materials, periodical collections, the reserve books and textbook reserves, circulation services, an extensive reading room, group study rooms, photocopiers and rental typewriters. The balcony houses the open-stack general book collections and individual study carrels. Non-print materials are located at the Loan Desk, and listening/viewing workstations are situated on the main floor.

As a member of the Peninsula Library System (a county-wide consortium involving all of the public libraries and the three college libraries), the Library offers its users access to more than 2.5 million items. These resources are made available through the GEAC Library System database operated by PLS. Items at any one of 33 sites throughout the county can be borrowed by a CSM patron, and can even be delivered to the Library if desired.

The CSM Library owns over 80,000 volumes of books, receives more than 350 current magazines and newspapers, and stores more than 16,600 pieces of microfilm and microfiche. The on-line catalogs provide access to both print and non-print materials, and other electronic searching/information retrieval tools are available. Assistance is always gladly provided by Library staff. Hours of service vary according to the academic calendar; current schedules are always posted at the Library.

Of special interest is the U.S. Government Documents collection. Since 1987, following its designation as a Federal Depository Library, the Library has been assembling a broadly-based, well-rounded collection of important government materials.

KCSM TV and FM

KCSM TV and FM are public broadcasting stations licensed to the college district and operated by College of San Mateo. KCSM TV is a broadcast station affiliated with PBS. It broadcasts to San Mateo County and throughout the Bay Area via its 1.5 million watt transmitter located on Mt. San Bruno. KCSM FM is a 24-hour public radio station affiliated with American Public Radio. Its broadcast signal also covers the County and most of the Bay Area. Its transmitter and tower are located on the CSM campus. KCSM TV broadcasts on UHF Channel 60 and KCSM radio broadcasts on 91.1 on the FM band. Both stations carry a wide variety of programming to meet the educational, cultural and informational needs of the students and of the community.

Studios for both KCSM TV and FM are located on the lower floor of the Library building. Station facilities are made available through the Broadcasting Arts department for the training of students in broadcast skills. Also, KCSM-TV broadcasts selected credit courses. These telecourses allow students to view the lecture portion of the classes at home on television. Usually three on-campus sessions are included as part of a telecourse. Telecourses carry full college credit and are transferable to many four-year colleges.

District Programs Not Offered at CSM

San Mateo County Community College District also operates Cañada College in Redwood City and Skyline College in San Bruno which offer a number of special programs not available at College of San Mateo:

Cañada College

4200 Farm Hill Blvd.,
Redwood City, CA 94061
(415) 306-3100 or
(415) 364-1212

Programs

Drama
Early Childhood Education
English Institute
Home Economics/Fashion Design
Interior Design
Italian
Microcomputer Technician
Paralegal
Radiologic Technology
Tourism

Athletics

Men's Basketball
Men's Golf
Men's Soccer
Men's Tennis
Women's Soccer

Skyline College

3300 College Drive,
San Bruno, CA 94066
(415) 355-7000 (day),
(415) 738-4251 (evening)

Programs

Automotive Technology
Automotive Technician
Convention and Meeting Management
Cosmetician/Esthetician (Eve. & Sat.)
Emergency Medical Technician
Fashion Merchandising
Fiber Optics
Gallery Management
Home Economics
Hospitality Administration
Food and Beverage
Image Consulting
Japanese Automotive Technology
Paralegal
Public Transit Management
Recreation Education
Respiratory Therapy
Telecommunications Technology
Toyota Technical Education Network

Athletics

Men's Basketball
Men's Soccer
Men's Wrestling
Women's Volleyball

Student Services

Administration and Staff

Vice President, Student Services

Patricia L. Griffin

Supervisor of College Security

Victor J. Theen

Dean of Admissions and Records

John F. Mullen

Assistant Registrar

Joanne L. Dunbar

International Student Advisor

Gerald J. Frassetto

Dean of Articulation and Research

John J. Sewart

Dean of Counseling/Advising and Matriculation

Steven N. Morehouse

Career Development Center

Elaine Burns

Coordinator of Counseling Services

Marcia Mahood

Permanent Resident Student Advisor (Immigrant Students)

Modesta Garcia

Psychological Services

Lawrence T. Stringari

Re-Entry Program

Elaine Burns

Transfer Center

Aisha Upshaw

Dean of Special Programs and Services

Arnett Caviel

Coordinator, Child Development Center

Louise Piper

Coordinator, Multicultural Center

Adrian Orozco

Coordinator, Student Activities

Stephen Robison

Financial Aid Officer

Arnett Caviel

Health Services

(To be announced)

High Tech Center Specialist

Carolyn Fiori

Learning Disabilities Specialist

Marie Papparelli

Program Director, Extended Oppor- tunity Programs and Services (EOPS)

Adrian Orozco

Academic Advisors/ Counselors

Administration of Justice

Bill Owen

Aeronautics

Steve Cooney

Joe Johnson

Architecture

Paul Zimmerman

Art

Janet Black

Broadcasting Arts

George Mangan

Business

Patricia Brannock

Mike Claire

Jacqueline Gamelin

William Janssen

Rosemary Piserchio

Janice Willis

CARE Program

Ruth Turner

Computer and Information Science

Cathleen Duran

Jacqueline Gamelin

Janice Willis

Concurrent Enrollment Program (High School Students)

Aisha Upshaw

Cosmetology

Agnes Williams

Dental Assisting

Elizabeth Bassi

Drafting/Technical Art and Graphics

Dean Chowenhill

Electronics Technology

Roy Brixen

Engineering

Cathleen Duran

Ernest Multhaup

Barbara Uchida

EOPS

Ruth Turner

ESL (Non-native English Speakers)

Sylvia Aguirre

Bo Yoshimura

Film

George Mangan

Fire Science

Bill Owen

GAIN

Ruth Turner

General Education

(Liberal Arts, General Education,
Social Science, No Major Program,
Special Program, Undecided Major
Program, Career Specialists)

Sylvia Aguirre

Kathryn Brown

Elaine Burns

John Fiedler

Anita Fisher

Modesta Garcia

Martha Gutierrez

Carolyn Ramsey

Caroline Silva

Bo Yoshimura

Horticulture

Janet Black

Michael DeGregorio

Immigrant (Permanent Resident) Students

Modesta Garcia

International Students

Gerald Frassetto

Language Arts

(English, Foreign Languages,
Journalism, Speech)

John Fiedler

Linda Scholer

Pat Tollefson

Life Science

Michael DeGregorio

William Glen

Barbara Uchida

Mathematics

Cathleen Duran

Ernest Multhaup

Medical Assisting

Rosemary Piserchio

Multicultural Center

Sylvia Aguirre

Bo Yoshimura

Music

George Mangan

Nursing

Marlene Arnold

Jane McAteer

Caroline Silva

Elizabeth Smith

Barbara Uchida

Physical Education

Caroline Silva

Physical Science

William Glen

Real Estate

William Janssen

Social Science

Anita Fisher

Pat Tollefson

Transfer Center

Aisha Upshaw

Welding, Machine Tool, and Manufacturing Technology

Joseph Johnson

Academic Advising and Career Planning

The counseling program at College of San Mateo provides a variety of important services including academic advising and career planning. The role of counselors/advisors is to assist students in establishing realistic goals and in developing a sound educational plan to achieve those goals.

Each day student enrolled in more than six day units is assigned to a counselor/advisor who is knowledgeable about the student's field of interest or major. Day students not assigned to a counselor/advisor may visit the Counseling Center (Administration Building, Room 130). The Center is open from 8 a.m. to 3 p.m. for counseling assistance and no appointment is necessary. Telephone: 574-6400.

Counseling/advising assistance is available for evening students in the Career Development Center (Student Center, Building 5, Room 128). This Center is open for evening counseling Monday through Thursday from 4:30 p.m. to 5:30 p.m. on a drop-in basis, and by appointment between 5:30 p.m. and 7:30 p.m. If you wish to have a counselor review your records, bring a copy of your transcripts with you. Telephone 574-6571 for further information or to make an evening appointment.

Career counseling and planning services are also available in the Career Development Center on an appointment basis during the day, Monday through Friday, and evenings by appointment. This service is provided to assist students in exploring their abilities, values, and interests, and in establishing career and educational goals. Students undecided about their major or career goals are encouraged to meet with a career counselor and to enroll in one of our career exploration classes. For more information on career planning assistance, visit or call the Career Development Center (Building 5, Room 128). Telephone: 574-6571.

Personal counseling is available to all registered students through psychologists/counselors with specialized personal counseling skills. The staff will attempt to help students develop their full potential and obtain maximum benefit from their college experience. When appropriate, students may be referred to other offices for specialized assistance. Appointments for special services may be made in person, by telephone, through a counselor/advisor, or through the Student Health Center.

CARE Program

CARE is a specialized student support program for single parents who are economically disadvantaged. Eligible students receive additional student services such as child care grants, textbooks/supplies, and transportation assistance. Further information is available from Ruth Turner, Counselor, Building 20, Room 109 (574-6138).

Career Development Center

The Career Development Center, located in the Student Center (Building 5), is a college resource designed to assist students in making decisions about their college major and/or career. It has current information about career opportunities and college transfer programs, as well as a library of college catalogs, audiovisual materials and the EUREKA computerized career information system.

The career clusters include current bulletins and career descriptions, as well as salary levels and the employment outlook for specific job types. Reference books include the Occupational Outlook Handbook and the Dictionary of Occupational Titles which give detailed descriptions of over 12,000 occupations.

The catalog section includes catalogs from virtually every college and university in California, popular out-of-state colleges and universities, and foreign study catalogs and programs. The microfiche catalog collection has the catalogs of all U.S. colleges as well as some in other countries.

In addition, a variety of short courses, open forums, individual and group career exploration activities, and career counseling appointments are offered to help students with academic, personal and career planning. A calendar of scheduled events is available in the Career Development Center at the beginning of each semester. Résumé writing assistance and instruction in job interviewing techniques are also available. Descriptions of individualized and group Career and Life Planning class offerings are found in the Description of Courses section of this catalog under the heading Career and Life Planning.

Students and members of the community are encouraged to visit the Career Development Center (Building 5, Room 128). For information call 574-6571.

Child Development Center

The Mary Meta Lazarus Child Development Center, located at the east end of the campus overlooking the Bay, provides a comprehensive child development program as a service to assist students who have young children. Eligible children are those from 2½ through 5 years of age with a parent who is a student at a District College. For more information call Louise Piper at 574-6279.

Disabled Student Services

Students entering college with physical disabilities who need assistance should contact staff for a pre-enrollment interview to determine support services needed. The **Disabled Student Center** provides tutoring, note taking, reader services, mobility assistance, special parking permits, assistance with classroom access, orientation to the campus, and referral to campus resources. (Disabled Student Center, Building 16, Room 151.)

The **Learning Disabilities Assessment Center** offers students with possible learning disabilities individual educational assessment, support services, and assistance with educational planning. If you suspect or know you have a learning disability, contact the staff to schedule an appointment. Diagnostic testing may be administered to develop an educational plan for academic success. Support services may include tutoring, student skills, test-taking assistance, books on tape, and liaison with instructors and counselors. For more information contact Marie Paparelli in Building 18, Room 193, 574-6433.

The **High Tech Center for Disabled Students** offers specialized training in the use of hardware and software adaptations appropriate to a particular student's disability. Students served include those with learning disabilities, acquired brain injuries, orthopedic disabilities, visual and hearing impairments. For more information contact Carolyn Fiori in Building 18, Room 193, 574-6432.

Adapted Physical Education classes are designed to help improve a student's level of physical fitness. Based on an individual assessment, a program is developed to fit the student's special needs. Further information is available from John Hogan, Adaptive Physical Education, Gymnasium, Building 8, Room 109A (574-6469).

Drop-In Counseling/Advising

Drop-In counseling/advising services are available in the Counseling Center. The Center is located in Building 1, Room 130, and is available to part-time students and members of the community who wish assistance with program planning and counseling, 8 a.m. to 3 p.m., Monday through Thursday, and 8 a.m. to 2 p.m. on Fridays.

Evening drop-in counseling/advising services are available from 4:30 to 5:30 p.m., Monday through Thursday, in the Career Development Center (Building 5, Student Center, Room 128). Evening counseling/advising is also available by appointment from 5:30 to 7:30 p.m., Monday through Thursday. Contact the Career Development Center (574-6571) for an appointment. Persons desiring academic advising should bring transcripts of previous work to the interview.

Employment Services

A student employment service provided by the Employment Development Department and JOBTRAK is located in the Career Development Center to assist students currently enrolled in good standing to secure employment. Office hours are Monday through Thursday, 9 a.m. to 3 p.m. Telephone 574-6151 for more information.

Extended Opportunity Programs and Services (EOPS)

EOPS is a specialized student support program for educationally and economically disadvantaged students, which is jointly funded by the State of California and San Mateo County Community College District. Eligible students receive additional financial assistance, supplemental counseling and tutoring, as well as opportunities to participate in workshops and field trips not available to other students.

In order for a student to be considered for the EOPS program, the following criteria apply: (1) Full-time (12 units) enrollment, (2) qualification to receive a Board of Governors Grant (BOGG) based upon low income or receipt of public assistance, (3) completion of less than 70 college-level units, and (4) meeting the educational disadvantage definition, as determined by the EOPS guidelines.

Interested students who may possibly be eligible should make further inquiries to apply by visiting the EOPS Office, located in Building 20, Room 109, or by calling 574-6158.

Financial Aid

The financial aid program at College of San Mateo is dedicated to the concept that no individual should be denied an education solely for financial reasons. Any student applying for admission to the College who has a financial need for assistance is urged to apply for aid.

The Financial Aid Office administers a program of grants, loans, and work-study programs which are awarded to qualified students. The Financial Aid Office assists and encourages students to apply for grants (Cal Grant Programs A, B, and C) through the California Student Aid Commission. The annual deadline is March 2. Students must be enrolled in a minimum of 1 unit to be eligible for consideration.

Financial aid can assist students in paying enrollment fees, for books, transportation, room and board, and other educational expenses. Students who need financial assistance to pay the enrollment fee are encouraged to apply for the Board of Governors Enrollment Fee Waiver. There is no minimum unit requirement for this program.

All financial aid awards are based on need; the determination of need is based upon a careful analysis of family income and assets, liabilities, number of children, etc. While the determination of the student's financial need is geared mainly to the student's educational and vocational career plans, it is recognized that frequently the student may have personal considerations that play an important part in this determination. Each application is evaluated on an individual basis with special and extenuating circumstances taken into consideration. Students must meet certain academic progress eligibility criteria prior to receiving financial aid and must maintain financial aid satisfactory progress standards while receiving financial aid.

Students are advised that determination of eligibility takes a minimum of eight weeks from the time the application is determined complete. Students are strongly encouraged to observe application deadlines. Applications received after established deadlines will be considered subject to the availability of funds.

For information regarding specific assistance programs and financial aid satisfactory progress standards, students should visit the Financial Aid Office on the second floor of the Administration Building, Room 221. Applications for small emergency loans are available through the Office of the Coordinator of Counseling Services, also

located on the second floor of the Administration Building.

Health Services

Health Center services include first aid, nursing assessment, health counseling, arrangement for emergency transportation, stress management, hearing and vision screening tests, blood pressure screening and tuberculin skin tests.

Other services include nutrition and exercise counseling, referrals to DSPS services, psychologists, physicians, and health and community agencies.

Absences in excess of five days for medical reasons should be reported to the Health Center by the student so that instructors can be notified.

An ill or injured person who is unable to communicate and whose family cannot be reached will be sent to the nearest hospital.

Insurance

The College provides limited accident and emergency illness insurance coverage to its students while they are on campus or at a College-sponsored event.

The College has endorsed a voluntary health insurance program which may be purchased by students who are not covered by their own or their parents' policies. The voluntary policy provides for 24 hours around-the-clock protection at an advantageous group rate. Detailed information is available in the Student Health Center, Building 1, Room 226, telephone 574-6396.

Learning Skills Center

Located on the second floor of Building 18, the Learning Skills Center provides learning assistance for all CSM students. Unit credit is available. The following services are available:

The Reading Center offers diagnosis of reading skills, instruction in improving comprehension, vocabulary, and reading speed, and reinforcement of phonics and spelling skills. (Building 18, Room 192; 574-6437)

The Writing Center offers diagnosis in writing skills, tutorial instruction in grammar, sentence structure and essay composition, tutorial assistance in composing papers for a CSM class, and assistance in completing assignments from any CSM English class. (Building 18, Room 187; 574-6436.)

The **Language Arts Computer Writing Facility** is used as an interactive classroom for certain English composition courses and as an open lab for students enrolled in any English course. Thirty Macintosh computers and six printers enable students to write and revise class assignments. (Building 18, Room 188; 574-6314.)

The **Learning Disabilities Assessment Center** offers students with possible learning disabilities individual educational assessment, support services and assistance with educational planning. If you suspect or know you have a learning disability, contact the staff to schedule an appointment. Diagnostic testing may be administered to develop an educational plan for academic success. Support services may include tutoring, student skills, test-taking assistance, books on tape, and liaison with instructors and counselors. Further information is available from Marie Paparelli, Learning Disabilities Specialist, Building 18, Room 193 (574-6433).

The **High Tech Center for Disabled Students** offers specialized training in the use of hardware and software adaptations appropriate to a particular student's disability. Students served include those with learning disabilities, acquired brain injuries, orthopedic disabilities, visual and hearing impairments. Further information is available from Carolyn Fiori, Adaptive Computer Technology Specialist, Building 18, Room 193 (574-6432).

Multicultural Center

The Multicultural Center is part of the general campus counseling program which is open to serve all students, regardless of background. The program's emphasis is the recruitment and sustained enrollment of students who seek to continue their educational opportunities while improving language skills and overcoming social and/or economic disadvantages. The staff is made up of full-time bicultural and/or bilingual certificated counselors and support personnel. To facilitate students' successful participation, the program offers academic advising and personal counseling, and other student services in a supportive and culturally enriching environment. The Center is located in Building 20, Rooms 107, 112, and 113. Phone 574-6154.

Psychological Services

Psychological Services offers confidential, individual consultation regarding personal

concerns, as well as group counseling, seminars on various topics, classes in developing coping skills, and referral to other on- and off-campus resources. These services are available to all day and evening students. Appointments may be made through the Health Center, Building 1, Room 226, telephone 574-6396, or directly with Psychological Services staff.

Scholarships

The Foundation for San Mateo County Community College District is a nonprofit tax-exempt corporation which exists to broaden the educational opportunities of students. Established in 1967, The Foundation provides scholarships and short term loans to help students achieve their goals.

The Foundation awards many thousands of dollars in scholarships each year which assist hundreds of students at the District's three Colleges. In addition, a number of outside organizations award scholarships directly to College of San Mateo students, bringing the annual total of awards at this College to more than \$120,000.

Contributions to The Foundation are received from many sources: individuals, businesses, civic groups, community organizations and other foundations. Some are memorials while others are endowments or given to establish specific scholarship funds.

Many gifts are intended for direct transmittal to student recipients. Some contributions specify who is to receive the assistance (field of study, based on merit or financial need, type of student — two-year transferring, re-entry, etc.); others specify the College at which the award is to be made. Some leave both the recipient and the College to the discretion of The Foundation, in which case funds are allocated to the Colleges in proportion to the number of full-time students. Awards are made at each College by a scholarship committee.

Scholarship applications and further information about the College of San Mateo Scholarship Program are available from the Office of the Dean of Special Programs and Services, Building 1, Room 215; telephone 574-6434.

Testing Services

Placement testing is designed to measure knowledge of English, reading, and mathematics. It is highly recommended that all students take the placement tests prior to

enrolling at College of San Mateo. This is especially important for students who will be enrolled in English, reading or mathematics courses, as well as those preparing to earn an Associate in Arts or Science degree or transfer to a four-year college or university. Students are advised to discuss their placement results with a counselor/advisor prior to determining their academic program and prior to developing an educational plan. No fee is charged for the testing and pre-registration is not required. Students must bring their correct Social Security number and photo identification (e.g., driver's license) to the testing. Special English, reading and listening tests for non-native speakers of English are given at all scheduled testing sessions. All sessions are accessible to students in wheelchairs.

Students enrolling in an English composition class must fulfill the skill level prerequisite for that class if the prerequisite course requirement has not been met. Skill level prerequisite may be satisfied by an appropriate score on the English/Reading placement test. See English and Reading course listings for more information regarding skill level prerequisites. Under specific guidelines from the Language Arts Division, English and reading tests (other than ESL) may be repeated only after three years. ESL tests, for students who speak English as their second language, may be repeated after two years.

Students enrolling in any mathematics courses are strongly encouraged to take the appropriate SMCCCD placement test in addition to fulfilling the course prerequisite if the prerequisite course was not taken at one of the SMCCCD colleges. Students may repeat the same level mathematics placement test one time only. CSM does not accept alternate test scores for mathematics placement.

Refer to the Schedule of Classes for placement testing dates and locations.

Special testing is also available to assess learning and study skills, and to access interest and values related to the identification of educational objectives and occupational choices. Further information may be obtained by calling the Testing Office, 574-6175, or the Career Development Center at 574-6571.

Study skills testing and assessment is offered during the semester at workshops conducted by the Transfer Center.

The Career Development Center offers personal and vocational assessment service

which is available to all students. Students receive assistance in establishing their educational and vocational goals, and in planning leisure activities.

Personal assessment is also available through a series of Career and Life Planning classes. Most of these classes are designed as 6- and 8-week courses. (See course descriptions.) Interpretations of self assessment tests given in these classes and explanations of placement test results help students appraise their interests, personal adjustment, and special abilities. These tests are useful to students to verify or make effective educational and vocational plans.

Transfer Center

Located with the Career Development Center in Bldg. 5, Room 128, the Transfer Center provides important services to assist students in planning for transfer to a four-year college or university. Information and workshops are offered on transfer requirements, completing admission applications, essay

Associated Students

The Associated Students of the College of San Mateo (ASCSM) is the official representative student government organization at College of San Mateo. The Associated Students organization is charged with the responsibility of assessing and meeting student needs and of providing student input into the decision making process of the college. The activities of the organization are carried out by the Student Senate and major advisory committees in the areas of Finance and Administration, Public Relations, Programs, Services, Academic Affairs, Inter-Club Council and the Café International.

Major elected and appointed officers and representatives of the association are as follows:

- President
- Vice President (Senate Chairperson)
- Secretary
- Finance Director
- Senators (one for every five hundred students enrolled)
- CSM Student Trustee Nominee to the Board of Trustees

In addition, students are selected by the Student Senate to serve on the following College and District Advisory Committees:

- Americans with Disabilities Committee
- College Instruction Committee (2)
- College Student Services Committee (2)
- College Accessibility Committee (2)
- College Library and Media Center Committee (2)
- College Master Plan Committee (1)
- District Academic Calendar Committee (1)
- District Food Services Committee (1)
- District Committee on Encouraging Greater Student Involvement in College Governance (1)

Senate

The Senate is responsible for the administrative affairs of the association including the monitoring of programs approved by the Senate and the representation of the association's viewpoint in college-wide matters.

The Senate is comprised of students elected at-large in an annual campus-wide election.

Finance and Administration Committee

The Finance and Administration Committee of the Senate is responsible for matters of

budget, personnel, equipment purchase and maintenance, facilities use, election guidelines, constitutional amendments and by-law amendments sponsored by the Senate, and statewide legislative issues.

Public Relations Committee

The Public Relations Committee of the Senate is responsible for the publication of the *Monday Morning Blues* senate newsletter, press releases to the public media, advertising for student participation in student government, and marketing of student body express cards.

Programs Committee

The Programs Committee is responsible for providing social, cultural, recreational and educational programs for students. The Programs Committee is organized into sub-committees which have responsibility for program development in specific areas or for specific events. Sub-committees are formed as determined by the priorities and interests of students. Typical sub-committees are as follows:

- Contemporary Entertainment
- Speakers and Lectures
- Arts and Exhibits
- Film and Video
- Outdoor Recreation
- Multi-Cultural Programming

Programs developed or supported by the Programs Committee have included such events as: speeches by U.S. Presidential, Vice-Presidential and Congressional candidates; jazz performances, art shows, acoustic concerts, craft shows, spring festivals, film festivals, video shows, African-American history programs, Cinco de Mayo Festivals, singers, dancers, comedy shows, and a wide variety of lectures on such contemporary topics as nuclear energy, First Amendment freedoms, space technology, U.S. foreign policy, nuclear disarmament, and racism.

Services Committee

The Services Committee of the Senate is responsible for the coordination of copy machine services, games room services, the book exchange service, the free swim and summer swim programs, instructor evaluation surveys, carpooling programs, the concessions at various campus events, and the merchant discount program.

Academic Affairs Committee

The Academic Affairs Committee is responsible for reviewing academically related issues and making recommendations to the Senate regarding such issues. Topics reviewed recently have included changes in the academic calendar, student evaluation of courses, and a review of current "college hour" policies. The committee is made up of student representatives who serve on college advisory committees and is open to all interested students.

Inter-Club Council

The Inter-Club Council is comprised of representatives from each student club on campus. Its purpose is to provide an information exchange between clubs, coordinate events sponsored by more than one club, and advise the Senate regarding support for club activities.

Café International Advisory Committee

The Café International coffee house was created in 1989 by the Associated Students to serve student needs by creating a comfortable study and conversation area for the campus. The Café International Advisory Committee is responsible for the on-going review and major operating policy recommendations for the program. The Committee meets approximately once each month and is comprised of three student senators appointed by the Senate, the student General Manager of the Café International, the College Coordinator of Student Activities, and a member of the Business Division faculty.

Further information about the Associated Students can be obtained by contacting current student officers through the Student Activities Office or one of the following Associated Students advisors: Arnett Caviel, Dean of Special Programs and Services, Bldg. 1-215; or Steve Robison, Coordinator of Student Activities, Bldg. 5-125. Meeting times for Associated Student groups are available through the Student Activities Office in the Student Center Building, 5-125.

Associated Students Express Card

The Associated Students offers students an identification/ discount card which allows the holder to have free access to all campus events sponsored by the Associated Students. Special merchant discounts are also available from community businesses that

offer discounts to card holders. All students are encouraged to obtain an Associated Students Express Card during registration through payment of a \$5 per semester fee. Revenues support a wide variety of student activities, services and programs which help make the College of San Mateo an exciting and enjoyable place to attend. Among the activities and services that have been supported by these fees are the Child Development Center, multicultural events, intramural sports, student scholarships and loans, the CSM parcourse, the guest speakers program, student lounge remodeling, copy machine services, game and recreational services, the merchant discount program, graphic arts services for student groups, Library lounge furniture and magazine subscriptions, the founding of the Café International coffee house, and student representation in college and statewide matters affecting students. Contact the Student Activities Office in the Student Center Building for further details and a complete list of card benefits.

Student Clubs and Organizations

In order to gain maximum benefit from college life, a student is encouraged to participate in one or more of the many student clubs and organizations on campus. The groups listed below offer opportunities to students for both social and educational contacts. Each group elects its officers and plans its own program for the semester. The activities of each group depend largely upon the enthusiasm of its membership. Students are encouraged to contact an advisor listed below for further details about the club or organizations in which they are interested. Additional information may be obtained by contacting the Student Activities Office located in the Student Center building.

Adapted Physical Education Students – John Hogan

Aeronautics – Steve Cooney

African Student Unity Organization – Carolyn Ramsey and David West

Amateur Radio Club – Tom Diskin

Architecture (American Institute of Architects, CSM Chapter) – Paul Zimmerman

Arts in Recovery – Angela Stocker

Asian Students Union – Kate Motoyama

Astronomy Club – to be announced

Ballet Folklorico de CSM – Sylvia Aguirre

Baseball Club – Pete Jensen

Broadcasting Arts Students – George Mangan

Business Students Association – Rosemary Nurre

Cheerleaders (see "Spirit Leaders Association")

Child Development Center Parents Advisory – Louise Piper

Christian Fellowship – Ken Brown

Computer Science Club – Cathy Duran

Cosmetology – Patricia Castro and Ann Giniere

Cross Country Club – Bob Rush

Dental Assisting (Epsilon Delta) – Elizabeth Bassi

Design and Drafting (American Institute of Design and Drafting) – James Cullen

Earth Preservation Committee – David Danielson

Electronics Technology Club – Roy Brixen

Emeritus – Eric Gattman

Engineering (Union of Student Engineers) – Mikael Kroencke

EOPS Club – Ruth Turner

Ethnic Studies Society – Zelte Crawford

Floral Design (American Institute of Floral Design) – Lois Hillis-Lewis

French Club – Annette Semec-Luciani

Gay Student Union (PRIDE) – to be announced

German Club – Diane Musgrave

Helping Hands Club – John Hogan and Carolyn Fiori

Honor Society (Alpha Gamma Sigma) – Al Acena

Horticulture – Matthew Leddy

Indo-American Club – Patricia Benney

International Students Union – Zelte Crawford

Jazz Dance Club – Ginger Cain

Journalism Club – Ed Remitz

Latin American Student Organization (LASO) – Martha Gutierrez

Math Club – Mohsen Janatpour

Modern Dance Club – Terri Grimshaw

Muslim Student Union – David West

Nursing Students Association – Jane McAteer

Polynesian Club – Deborah Lulusa

Ski Club – to be announced

Spirit Leaders Association – Sharon D'Antonio

Track Club – David Shrock

Turtle Island Student Union – Carlene Tonini

Unity Among Brothers – Zelte Crawford

Visual Arts Club – Rory Nakata

Student Activities Office

The Student Activities Office is a drop-in information office located at the north end of the Student Center where students are welcome with questions regarding any aspect of the College.

Special services provided for students by the Student Activities Office include:

Student Activities Event Planning

The Coordinator of Student Activities is available to assist campus organizations in the development, planning and approval of special campus programs and events. College policy questions, facilities reservations, security planning, audio visual requests, insurance requirements, health and safety reviews, risk management planning, publicity and other considerations for special events are coordinated through this office.

Housing Assistance

Dormitories and other types of college-sponsored housing are not offered by College of San Mateo. However, the Student Activities Office maintains up-to-date listings of housing available in the community. The majority of listings are rooms in private homes, but apartments and houses are also available.

Student Government and Club Information

Information concerning any aspect of student government, student activities or clubs may be obtained in the Student Activities Office. This office also provides these groups with duplicating and publicity services.

Student Center Facilities Use

The Student Activities Office is responsible for the supervision of the Student Center Building, including the Recreation/Games area, the Student Center Lounge, and other Student Center facility use.

Referral Services

The Student Activities Office maintains current referral listings of services available through the College and other community agencies. It can assist students through referrals to the campus Health Center, Psychological Services, Tutorial Center, Child Development Center, and other community agencies for such services as legal assistance, family planning, and women's services.

Transportation Information

Bus discount tickets, bus and train schedules, car-pool matching services, maps, and general transportation assistance are available through the Student Activities Office.

Campus Posting Approval

All signs, flyers, or similar materials must be approved through the Activities Office as to time, place and manner of distribution prior to being posted or distributed on campus.

Vending Refunds

If campus vending machines are not vending properly, refunds are available through the Cafeteria.

Campus Publications

The following publications are issued by College of San Mateo:

Campus Activities Announcements/Calendar – A publication prepared and distributed by the Student Activities Office on a monthly basis announcing activities, new events and items of interest to the faculty and students of the College. Submit items for publication to the Student Activities Office.

Career Development Center Events Schedule – A publication prepared and distributed by the Career Development Center each semester which provides a schedule of career-related workshops and seminars.

Class Schedule – A listing and description of courses offered each term (Fall Semester, Spring Semester, Summer Intersession). The publication also includes information on admissions and registration, fees, student services and other related matters.

Monday Morning Blues – A weekly newsletter published by the Associated Students Senate as a way of informing students of events sponsored by the Associated Students and promoting school spirit and interest.

Planning to Transfer to a University – A publication prepared and distributed by the Transfer Center each semester which provides a schedule of transfer related workshops and academic planning sessions with university representatives.

The San Matean – A student newspaper published weekly, serving a two-fold purpose of providing full coverage of activities on campus and of giving experience to journalism students.

Student Handbook – A manual for students containing information about College of San Mateo, policies and procedures, staff, student organizations and services published by the Student Activities Office. This handbook is designed to assist new students with program planning, campus vocabulary and campus resources, and it includes recommendations to help students in registering for classes.

Transfer Planning

This section is designed to help students plan an educational program at CSM which will prepare them to transfer to the University of California, California State University, or a private college or university to earn a bachelor's degree. Students are encouraged to meet regularly with a CSM counselor/advisor and use the resources of the CSM Transfer Center to plan an academic program which will assure a smooth transition to the transfer institution of their choice. After completing transfer requirements, students may want to continue to earn units toward an Associate in Arts or Associate in Science degree at CSM. With careful planning, both objectives can be reached by taking essentially the same set of transferable courses.

CSM Transfer Center

The CSM Transfer Center provides information and offers workshops on choosing a college, transfer admission requirements, completing applications, essay writing, admission applications and financial aid. Transfer Center staff can provide details about special Transfer Admission Agreements that CSM has developed with a number of four-year institutions which can guarantee students transfer admission.

Students with a clear transfer objective stand the best chance of meeting requirements in a timely manner. They can make the best use of their time and course work by deciding on a transfer institution and major as soon as possible. Students unable to make these decisions when they enter College of San Mateo may follow a general transfer pattern of courses while taking advantage of Transfer Center resources in making transfer plans.

Once they have chosen a major and the university to which they plan to transfer, students should consult the Major Preparation Recommendations section of this Catalog to determine whether specific CSM courses are listed for their intended major and university. Transfer Center staff and CSM counselors/advisors can assist students in planning for transfer, and university representatives often visit CSM to meet with students interested in transferring to their institutions. It is wise for students to consult the catalog of the university to which they plan to transfer to become familiar with specific transfer admission requirements. Many college and university catalogs are available for refer-

ence in the Transfer Center, and students may write directly to the admissions office of the institution to obtain an information bulletin which outlines requirements for admission as a transfer student.

Located with the Career Development Center in Bldg. 5 (Student Center), Room 128, the Transfer Center is open Monday through Thursday from 8:00 a.m. to 4:30 p.m., on Friday from 8 a.m. to 12:30 p.m., and on Tuesday evenings from 4:30 to 7:30 p.m. Telephone: 358-6839.

Transfer of Credit

Students expecting to transfer to a four-year college or university can usually complete their freshman and sophomore years at College of San Mateo. Students must normally complete 60 transferable semester units to be classified as juniors upon entering a four-year college or university.

Students enrolled in a transfer program can complete most of their general education and lower division requirements before transferring. High school subject deficiencies may be made up at College of San Mateo in order to meet university admission requirements. In some instances students may qualify for transfer to the college of their choice by maintaining an acceptable grade point average at College of San Mateo in a minimum of 56 units of appropriate transfer courses.

Requirements for Transfer Students

A student can transfer from College of San Mateo to a four-year college or university as a junior without loss of time or credits by completing the following:

1. **Lower Division Courses for the Major.** These courses, which should be completed before transferring, provide the necessary background and preparation in order for the student to concentrate on the major beginning in the junior year. See the Major Preparation Recommendations section of the catalog and check with your counselor/advisor.
2. **General Education Requirements** (sometimes called "Breadth Requirements"). These are the courses required to obtain a bachelor's degree regardless of major. Courses in writing, critical thinking, sciences, humanities and social sciences are included in general education.

3. **Electives.** When courses for the major and general education requirements have been completed, enough elective courses must be taken in order to bring the total of all course work to a minimum of 56 transferable units.

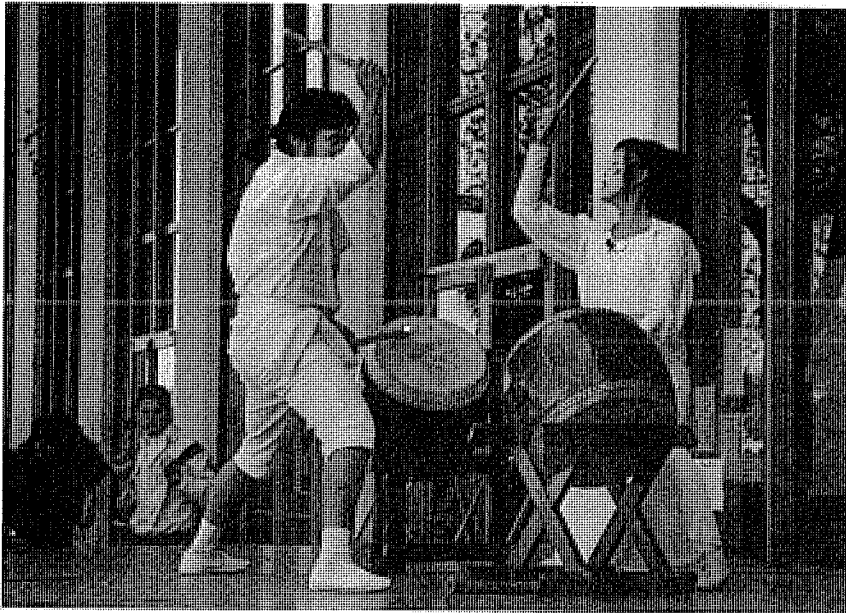
Transfer Admission Procedures

Students should take the following steps in applying for admission as a transfer student to a four-year college or university:

1. Request application forms from the admissions office of the transfer institution approximately one year in advance of planned transfer. Applications for the University of California and the California State University are available at CSM in the Transfer Center, Counseling Center and Office of Counseling Services.
2. Submit completed application forms during the specified filing period. Students are discouraged from sending them early as they will not be accepted before the initial filing date.
3. If an entrance exam (SAT, ACT) is required for transfer admission, register for the exam as soon as possible, at least six months in advance of transfer. Registration forms are available from the CSM Testing Office, located in the Counseling Center (Bldg. 1, Room 130).
4. Submit a request to the CSM Office of Admissions and Records to have a transcript of your academic record sent to the transfer institution at the time(s) specified by that institution. Transcripts must be requested well in advance of the date required. Four-year colleges and universities will also require transcripts of work completed at all other educational institutions.

California State University

The California State University offers instruction to undergraduate and master's degree students in the liberal arts and sciences, applied fields, and professions, including teaching. Nearly 1,500 degree programs in 240 subject areas are offered. CSU assigns high priority to California community college transfer students who have completed the first two years of their baccalaureate program, including those applying for impacted programs. CSU campuses make every effort to see that California community college transfer students originally eligible for admission as first-time freshmen are admitted to their first-choice campus.



Japanese dancers perform during Asian Heritage Week, one of a number of cultural celebrations sponsored by student organizations.

The California State University has twenty campuses: Bakersfield, Chico, Dominguez Hills, Fresno, Fullerton, Hayward, Humboldt, Long Beach, Los Angeles, Northridge, Pomona, Sacramento, San Bernardino, San Diego, San Francisco, San Jose, San Luis Obispo, San Marcos, Sonoma and Stanislaus.

University of California

The University of California offers bachelor's, master's and doctoral degree programs in a broad array of subject areas. Last year, more than 6,000 students transferred from California's community colleges to the University, and more than one-fifth of UC's bachelor degrees were awarded to students who started out at a community college. The University is encouraging even more community college students to take this step in the coming years.

The University of California has a long-established relationship with College of San Mateo and has developed several special programs to help community college students with the transfer process. The University's articulation agreements with CSM make it possible for prospective transfer students to select appropriate courses. Community college students receive priority consideration for transfer admission. The Intersegmental General Education Transfer Curriculum allows prospective transfer students to satisfy the lower division breadth/general education requirements of any UC campus before transferring.

While all of the campuses have the same requirements for undergraduate admission, they differ in size, enrollment, and in academic programs offered. The UC campuses are located in a variety of community settings throughout the State with enrollments ranging from 9,000 at Riverside, to 35,000 at Los Angeles. In addition, the nine campuses vary in styles of campus life, with student populations reflecting a variety of cultures from the United States and abroad. The University of California includes eight general campuses: Berkeley, Davis, Irvine, Los Angeles, Riverside, San Diego, Santa Barbara, and Santa Cruz. A ninth campus in San Francisco offers graduate and professional programs in the health sciences.

California Independent Colleges and Universities

There are more than 300 privately supported (or independent) degree-granting colleges and universities in California. Independent institutions enroll about one-quarter of all students attending four-year colleges and universities in California. The most distinctive feature of California's accredited independent colleges and universities is their diversity of character, academic emphasis, and programs. They include both religious and secular institutions, non-profit and profit-making institutions, and professional schools that offer only a single occupational specialty as well as universities offering a full array of bachelor's, master's, and doctoral degree programs.

When choosing from among the privately supported colleges and universities in California, you may wish to review the type of certification a particular institution has received. Note: In selecting a California independent college or university, students are advised to give first priority to those institutions which are fully accredited by the Western Association of Schools and Colleges. If you would like more information about the certification process as specified in California's Education Code, please contact the California Postsecondary Education Commission at (916) 445-7933.

Certification of General Education

College of San Mateo will verify the completion of lower division general education requirements for transfer to the University of California or the California State University system. Certification of partial completion of general education requirements is available for students transferring to a CSU campus who are unable to complete all requirements before transferring.

Students who transfer without certification will be required to meet the general education requirements of the specific UC or CSU campus to which they transfer. Meeting these local requirements usually necessitates taking additional courses following transfer. The Intersegmental General Education Transfer Curriculum (IGETC) meets the requirements of both the UC and CSU systems. See page 34 for details.

CSM Courses Transferable to CSU

The following courses are designated by CSM as appropriate for baccalaureate credit and are accepted by all California State Universities as applicable toward a baccalaureate degree:

- Accounting** 100, 121, 131, 142, 641, 680-689, 690
- Administration of Justice** 100, 102, 104, 106, 108, 120, 125, 153, 165, 641, 680-689, 690
- Aeronautics** 100, 130, 300, 301, 310, 311, 320, 321, 330, 331, 340, 341, 350, 351, 360, 361, 370, 371, 641, 666, 680-689, 690
- American Sign Language** 111, 112, 680-689, 690
- Anthropology** 105, 110, 180, 370, 680-689, 690
- Architecture** 100, 112, 120, 130, 140, 145, 210, 220, 230, 240, 641, 666, 680-689, 690
- Art** 100, 101, 102, 103, 105, 141, 201, 202, 206, 207, 214, 223, 224, 231, 232, 237, 238, 241, 242, 301, 305, 328, 330, 350, 351, 352, 353, 354, 355, 360, 405, 406, 411, 412, 641, 680-689, 690
- Astronomy** 100, 101, 680-689, 690
- Biology** 100, 102, 110, 111, 125, 130, 140, 145, 150, 160, 180, 184, 200, 210, 220, 230, 240, 250, 260, 265, 266, 641, 666, 675, 680-689, 690
- Broadcasting Arts** 110, 115, 131, 132, 135, 194, 195, 231, 232, 241, 242, 243, 244, 250, 301, 302, 641, 680-689, 690
- Business** 100, 101, 102, 115, 129, 131, 140, 150, 155, 156, 170, 175, 180, 201, 295, 305, 306, 307, 315, 325, 401, 641, 680-689, 690, 701, 702, 705, 711, 720
- Business DOS Applications** 101, 111, 112, 116, 201, 202, 203, 311, 312, 401, 402, 403, 404, 461, 462, 463, 466, 501, 503, 510, 512, 530, 591, 680-689
- Business Macintosh Applications** 211, 212, 213, 411, 412, 413, 680-689
- Business Windows Applications** 111, 112, 201, 202, 203, 211, 212, 213, 311, 312, 381, 382, 411, 412, 413, 680-689
- Career and Life Planning** 101, 102, 103, 112, 137, 138, 140, 141, 401, 402, 404, 406, 410, 430, 680-689
- Chemistry** 100, 192, 210, 220, 224, 225, 231, 232, 250, 410, 420, 680-689, 690
- Chinese** 111, 112, 121, 122, 131, 132, 680-689, 690
- Computer and Information Science** 100, 110, 115/116, 130/131, 150, 152, 154, 155, 156, 157, 160, 170, 171, 240/241, 250/251, 252/253, 272/273, 290/291, 304/305, 308/309, 312, 313, 320, 360/361, 372/373, 641, 680-689, 690
- Consumer Arts and Science** 310, 641, 680-689, 690
- Cooperative Education** 641, 645, 647 with a maximum of 12 units.
- Dance** 121, 131, 132, 141, 143, 148, 411, 412, 641, 680-689, 690
- Drafting Technology** 100, 120, 121, 122, 123, 201, 202, 301, 302, 400, 641, 680-689, 690
- Economics** 100, 102, 123, 680-689, 690
- Education** 100, 101, 680-689
- Electronics** 100, 110, 115, 201, 202, 210, 215, 216, 217, 218, 220, 230, 231, 232, 242, 243, 248, 249, 260, 275, 280, 302, 310, 320, 330, 340, 341, 342, 343, 346, 351, 360, 362, 370, 386, 641, 680-689, 690, 731
- Engineering** 111, 210, 230, 260, 270, 641, 666, 680-689, 690
- English** 100, 105, 110, 120, 130, 140, 161, 162, 163, 165, 195, 210, 400, 641, 680-689, 690
- Ethnic Studies** 101, 102, 150, 151, 152, 160, 261, 262, 288, 290, 350, 351, 425, 430, 440, 585, 680-689, 690
- Film** 451, 452, 461, 462, 463, 464, 465, 680-689, 690
- Fire Technology** 641, 680-689, 690, 701, 702, 703, 704, 705, 706, 707, 708, 709, 714, 715, 718, 720, 725, 730, 735, 736, 740, 745
- French** 110, 111, 112, 115, 116, 117, 120, 121, 122, 130, 131, 132, 140, 161, 162, 680-689, 690
- Geography** 100, 110, 680-689, 690
- Geology** 100, 101, 210, 680-689, 690
- German** 110, 111, 112, 120, 121, 122, 130, 131, 132, 140, 680-689, 690
- Health Science** 100, 101, 102, 103, 105, 106, 109, 111, 112, 113, 114, 641, 680-689, 690
- History** 100, 101, 102, 103, 110, 201, 202, 242, 260, 270, 310, 315, 350, 360, 680-689, 690
- Horticulture** 311, 312, 315, 320, 325, 327, 330, 340, 341, 342, 410, 411, 413, 414, 415, 417, 418, 419, 420, 421, 641, 680-689, 690, 701, 702, 705, 706, 709, 711, 712, 721, 722, 731, 742, 777, 778
- Humanities** 101, 102, 111, 112, 113, 114, 125, 127, 128, 131, 133, 136, 140, 680-689, 690
- Italian** 111, 112, 121, 122, 680-689, 690
- Japanese** 110, 111, 112, 120, 121, 122, 680-689, 690
- Journalism** 110, 120, 300, 641, 680-689, 690
- Latin** 111, 112, 680-689, 690
- Library Studies** 100
- Literature** 101, 105, 111, 113, 115, 143, 151, 153, 201, 202, 231, 232, 251, 301, 302, 430, 680-689, 690
- Machine Tool Technology** 110, 111, 120, 121, 200, 210, 211, 220, 221, 641, 680-689, 690, 701, 702, 703, 704, 750, 755, 760
- Management** 100, 105, 110, 120, 215, 220, 235, 641, 680-689, 690
- Manufacturing and Industrial Technology** 100, 101, 102, 120, 641, 680-689, 690
- Mathematics** 125, 130, 200, 222, 231, 241, 242, 251, 252, 253, 268, 270, 275, 680-689, 690
- Medical Assisting** 110, 115, 140, 190, 641, 680-689, 690
- Meteorology** 100, 680-689, 690
- Military Science** 1-2, 1a-b, 12a-b
- Music** 100, 101, 102, 103, 104, 131, 132, 133, 134, 170, 202, 240, 250, 275, 290, 291, 293, 301, 302, 303, 304, 320, 371, 372, 373, 374, 401, 402, 403, 404, 430, 451, 452, 453, 470, 490, 641, 680-689, 690
- Nursing** 211, 212, 221, 222, 231, 232, 241, 242, 641, 666, 680-689, 690
- Oceanography** 100, 101, 680-689, 690
- Paleontology** 110, 680-689, 690
- Philosophy** 100, 160, 244, 246, 320, 350, 680-689, 690
- Physical Education** All classes in the following series: 100-199, 200-299, 300-399, 400-499, 600-699
- Physical Science** 100, 675, 676, 680-689, 690
- Physics** 100, 210, 220, 250, 260, 270, 680-689, 690
- Political Science** 100, 110, 130, 150, 170, 200, 205, 210, 212, 215, 220, 250, 255, 260, 310, 415, 520, 680-689, 690
- Psychology** 100, 105, 108, 110, 121, 200, 201, 300, 330, 410, 675, 680-689, 690
- Reading** 410, 420, 680-689
- Real Estate** 100, 105, 110, 121, 131, 141, 142, 143, 145, 200, 210, 215, 220, 641
- Social Science** 111, 220, 221, 301, 302, 303, 304, 307, 308, 315, 316, 680-689, 690
- Sociology** 100, 105, 110, 141, 200, 300, 340, 391, 680-689, 690
- Spanish** 110, 111, 112, 120, 121, 122, 130, 131, 132, 140, 161, 162, 201, 202, 251, 680-689, 690
- Speech** 100, 111, 112, 120, 130, 150, 680-689, 690
- Technical Art and Graphics** 167, 200, 201, 202, 210, 220, 300, 310, 352, 400, 641, 680-689, 690
- Welding Technology** 110, 111, 120, 121, 210, 211, 220, 221, 250, 300, 641, 680-689, 690

CSM Courses Transferable to All University of California Campuses

A student planning to transfer to one of the campuses of the University of California can usually complete the first two years of his or her work at College of San Mateo. In some cases, students may wish to make up high school course deficiencies or grade point average deficiencies. Using the general catalog of the University campus to which you plan to transfer, you should work with your counselor/advisor in planning your program. The current issues of the University publications "Prerequisites and Recommended Subjects" and "Answers for Transfers" are helpful planning guides. They list the requirements for admission, breadth requirements and requirements for the major, all of which should be carefully considered in planning your program at College of San Mateo.

NOTE: Courses marked with a (*), (+), (#), or (@) are transferable with limitations as specified. If you have any questions, see your counselor/advisor.

Accounting 121, 131

Administration of Justice 100, 102, 104, 108

American Sign Language 111, 112

Anthropology 105, 110, 180, 370

Architecture 100, 112*, 120, 130, 140, 145, 210, 220

* Note: Credit limited to either ARCH 112 or ENGR 111 (within the 16 unit credit limit for Engineering courses).

+ Note: Credit limited to 16 units for ARCH 112 and Engineering courses.

Note: Special agreement in effect with UC Berkeley's College of Environmental Design. Any or all of these courses combined (except 112): maximum credit, 17 units.

Art 100#, 101, 102, 103, 105, 201*, 202*, 206*, 207*, 214*, 223*, 224*, 231*, 232*, 237+, 238+, 241+, 242+, 301+, 305+, 330+, 351+, 352+, 405+, 406+, 411+, 412+

* Note: Credit limited to 16 units.

+ Note: Credit limited to 12 units.

Note: No credit for ART 100 if taken after ART 101, 102, or 103.

Astronomy 100, 101

Biology 100#, 102, 110, 125, 130*, 140, 145+, 150, 160, 180, 184, 200, 210, 220, 230, 240, 250*, 260*, 265*, 266*, 675@

Note: No credit for BIOL 100 if taken after BIOL 110.

* Note: Credit limited to either BIOL 130/265/266 or 250/260.

+ Note: No credit for BIOL 145 if taken after BIOL 220.

@ Note: Credit for Honors colloquia limited to 3 units per term, 6 units total, in any or all subject areas combined.

Business 100, 201

Chemistry 100*, 192*, 210+, 220+, 224+, 225+, 231, 232, 250

* Note: Credit limited to either CHEM 100 or CHEM 192. No credit if taken after CHEM 210 or CHEM 224.

+ Note: Credit limited to either CHEM 210/220 or CHEM 224/225.

Chinese 111* and 112*, 121+, 122+, 131#, 132#

* Note: Credit limited to 5 units; both 111 and 112 must be taken to transfer.

+ Note: Credit limited to 5 units.

Note: Credit limited to 5 units.

Computer and Information Science 110*, 115/116*, 130/131*, 240/241*, 250/251*, 252/253*, 272/273*, 290/291*, 308/309*, 372/373*

* Note: Credit limited to 6 courses (with or without lab).

Consumer Arts and Science 310

Dance 121*, 130*, 132*, 141*, 143*, 148*, 411*, 412*

* Note: Credit limited to 12 units.

Economics 100, 102, 123*

* Note: Credit limited to only one of the following courses: ECON 123, MATH 200, or PSYC 121.

Engineering 111*+, 210+, 230+, 260+, 270+, 666+

* Note: Credit limited to either ENGR 111 or ARCH 112.

+ Note: Credit limited to 16 units if ARCH 112 taken.

English 100*, 105*, 110, 120, 130, 140, 161, 162, 163, 165, 210, 400

* Note: Credit limited to either ENGL 100 or 105.

Ethnic Studies 101, 102, 150, 151*, 152, 160, 261, 262, 288, 290, 350, 351, 425, 430, 440, 585

* Note: Credit limited to either ETHN 151 or SOCI 141.

Film 451, 452, 461*, 462*

* Note: Credit limited to either FILM 461 or FILM 462.

French 110*, 111* and 112*, 115*, 116*, 117+@, 120+, 121+@, 122+, 130#, 131#, 132#, 140, 161, 162

* Note: Credit limited to 5 units; both 111 and 112 must be taken to transfer.

+ Note: Credit limited to 5 units.

Note: Credit limited to 5 units.

@ Note: Credit limited to either FREN 117 or 121.

Geography 100, 110

Geology 100*, 101, 210*

* Note: Credit limited to either GEOL 100 or GEOL 210.

German 110*, 111* and 112*, 120+, 121+, 122+, 130#, 131#, 132#, 140

* Note: Credit limited to 5 units; both 111 and 112 must be taken to transfer.

+ Note: Credit limited to 5 units.

Note: Credit limited to 5 units.

Health Science 100

History 100+, 101, 102*, 103+, 110, 201*, 202*, 242, 260, 270, 310, 350, 360

* Note: No credit for HIST 102 if HIST 201/202 taken.

+ Note: Credit limited to either HIST 100 or 103.

Horticulture 311, 312, 320, 341

Humanities 101, 102, 111, 112, 113, 114, 125, 127, 128, 131, 133, 136, 675*, 676*

* Note: Credit for Honors colloquia limited to 3 units per term, 6 units total, in any or all subject areas combined.

Italian 111*# and 112*#, 121+#, 122+#

* Note: Credit limited to 5 units; both 111 and 112 must be taken to transfer.

+ Note: Credit limited to 5 units.

Note: Must be taken for letter grade to be transferable

Japanese 110*, 111* and 112* and 120+, 121+, 122+

* Note: Credit limited to 5 units; both 111 and 112 must be taken to transfer.

+ Note: Credit limited to 5 units.



Because CSM classes are small, professors like Frances Schulze (left) can spend time with individual students.

Journalism 110

Latin 111* and 112*

* Note: Credit limited to 5 units; both 111 and 112 must be taken to transfer.

Library Studies 100

Literature 101, 105, 111, 113, 115, 143, 151, 153*, 201, 202, 231, 232, 251, 301, 302, 430

* Note: Must be taken for 3 units to be transferable.

Mathematics 125, 200*, 222#, 241+, 242+, 251+, 252+, 253+, 268, 270, 275

* Note: Credit limited to only one of the following courses: ECON 123, MATH 200, or PSYC 121.

+ Note: Credit limited to MATH 241/242 or 251/252/253

Note: Maximum credit 4 units.

Meteorology 100

Military Science 1*, 1a*, 1b*, 2*

* Note: Credit limited to 4 units.

Music 100, 101, 102, 103, 104, 131, 132, 133, 134, 170*, 202, 240, 250, 275, 301*, 302*, 303*, 304*, 320*, 371*, 372*, 373*, 374*, 401*, 402*, 403*, 404*, 430*, 451*, 452*, 453*, 470*, 490*

* Note: Credit limited to 12 units.

Oceanography 100, 101

Paleontology 110

Philosophy 100, 160, 244, 246, 320

Physical Education All classes in the following series: 100–199*, 200–299*, 300–399*

* Note: Credit limited to 4 units.

Physical Science 100*, 675+

* Note: No credit if a transferable course in Astronomy, Chemistry, or Physics taken.

+ Note: Credit for Honors colloquia limited to 3 units per term, 6 units total, in any or all subject areas combined.

Physics 100*, 210+, 220+, 250+, 260+, 270+

* Note: No credit if taken after PHYS 210 or 250.

+ Note: If PHYS 210/250 taken, limit of 1 unit credit for 210; if PHYS 210/270 taken, limit of 3 units credit for 210; if PHYS 220/260 taken, limit of 2 units credit for 220; if PHYS 220/270 taken, limit of 2 units credits for 220.

Political Science 100, 110, 130, 150, 170, 200*, 210*, 212, 215, 220, 250, 255, 260, 520

* Note: Credit limited to either PLSC 200 or 210.

Psychology 100, 105, 121*, 200+, 201+, 300, 410, 675#

* Note: Credit limited to only one of the following courses: ECON 123, MATH 200, or PSYC 121.

+ Note: Credit limited to either PSYC 200 or 201.

Note: Credit for Honors colloquia limited to 3 units per term, 6 units total, in any or all subject areas combined.

Social Science 111, 220, 221

Sociology 100, 105, 141*, 200, 300, 340

* Note: Credit limited to either ETHN 151 or SOCI 141.

Spanish 110*, 111* and 112* and 120+, 121+, 122+, 130#, 131#, 132#, 140, 161, 162, 201, 202, 251

* Note: Credit limited to 5 units; both 111 and 112 must be taken to transfer.

+ Note: Credit limited to 5 units.

Note: Credit limited to 5 units.

Speech 100, 111, 112, 150

SPECIAL NOTE:

The following courses are also transferable, contingent upon a review of the course outline by a UC campus:

680 – 689 — Selected Topics

690 — Special Projects

Maximum credit allowed in selected topics and special projects is 3 units per term, with 6 units total in any or all subject areas combined.

WHEN TO APPLY FOR ADMISSION TO THE UNIVERSITY OF CALIFORNIA AS A TRANSFER STUDENT

To make sure that you will be considered for admission to the University campus you want to attend, and to the major or program of study you wish to pursue, file your completed application *during the appropriate Filing Period* shown below:

Priority Filing Periods

All UC Campuses, except Berkeley

Fall Quarter 1996: Nov. 1-30, 1995

Winter Quarter 1997: July 1-31, 1996

Spring Quarter 1997: Oct. 1-31, 1996

UC Berkeley only

Fall Semester 1996: Nov. 1-30, 1995

Spring Semester 1997: July 1-31, 1996

Note: Some UC campuses may not accept applications for admission to the winter and spring terms. Check with the Admissions Office at the campus you want to attend prior to the filing date.

General Education Requirements for California State Universities

48 units are required to complete the CSU General Education requirements. A maximum of 39 of these units may be taken at CSM; the remaining nine units must be taken at the CSU campus granting the baccalaureate degree. A course may not be used in more than one area or sub-area.

See page 34 for information on the Intersegmental General Education Transfer Curriculum (IGETC), an alternative way to complete CSU General Education requirements as a community college student.

Students with at least 56 transferable units and a GPA of 2.0 or higher meet the basic requirements for upper division admission if they have completed a minimum of 30 semester units, with a C or better in each course, to be chosen from courses in English, arts and humanities, social science, science, and mathematics of at least equivalent level to courses that meet general education requirements. Students must also complete all CSU general education requirements in areas A1, A2, A3 and B4 as part of the 30 units.

AREA A: Communications in the English Language and Critical Thinking.

Nine units required. Select at least one course from each area.

A1 – Oral Communications

Speech 100 (3), 120 (3), 150 (3)

A2 – Written Communications

English 100 (3), 105 (4), 110 (3), 120 (3), 130 (3), 140 (3), 165 (3), 400 (5)

A3 – Critical Thinking

English 165 (3)

Social Science 111 (3)

Students transferring to CSU Dominguez Hills, Hayward, San Francisco, San Jose, and Stanislaus are advised to take ENGL 165, which also meets the graduation requirement of a second semester of English.

AREA B: Physical Universe and its Life Forms.

Ten units required. One course required from each group: B1, B2, and B4. Must include one lab course (B3) marked with * below.

B1 – Physical Science

Astronomy 100 (3), *101 (1)

Chemistry 100 (3), *210 (5), *224 (4), *410 (4)

Geography 100 (3)

Geology 100 (3), *101 (1), *210 (4)

Humanities 127 & 128 (6)

Meteorology 100 (3)

Oceanography 100 (3), *101 (1)

Physical Science 100 (3), 675 (1)

Physics 100 (3), *210 (4), *250 (4)

B2 – Life Science

Biology 100 (3), 102 (3), *110 (4), *111 (4),

125 (3), 130 (3), 140 (3), 145 (3), *150 (4),

184 (3), *200 (4), *210 (5), *220 (5), *230 (4), *250 (4), *265 (4), *266 (5), 675 (1)

Paleontology 110 (3)

Psychology 105 (3)

B4 – Math Concepts, Quantitative Reasoning and Application

Computer & Information Science 240/241 (4),

250/251 (4), 272/273 (4)

Economics 123 (4)

Mathematics 125 (3), 130 (3), 200 (4),

222 (5), 241 (5), 242 (3), 251 (5), 252 (5),

253 (5), 268 (4), 270 (3), 275 (3)

Psychology 121 (3)

AREA C: Arts, Literature, Philosophy, and Foreign Language.

Nine units required, with at least one course in the Arts and one in the Humanities.

Arts

Art 100(3), 101 (3), 102 (3), 103 (3), 105 (3), 207 (3), 350 (3), 351 (3)

Film 451 (3), 452 (3), 461 (4), 462 (4),

463 (1), 464 (1), 465 (1)

Music 100 (3), 202 (3), 240 (3), 250 (3), 275 (3)

Humanities

Anthropology 180 (3)

Architecture 100 (3)

Chinese 111 (3), 112 (3), 121 (3), 122 (3), 131 (3), 132 (3)

English 110 (3), 120 (3), 130 (3), 140 (3), 161 (3), 162 (3), 163 (3)

Ethnic Studies 288 (3), 350 (3), 351 (3), 440 (3), 585 (3)

French 110(5), 111 (3), 112 (3), 115 (3), 116 (3), 117 (3), 120 (5), 121 (3), 122 (3), 130 (5), 131 (3), 132 (3), 140 (3), 161 (3), 162 (3)

German 110 (5), 111(3), 112 (3), 120 (5), 121 (3), 122 (3), 130 (5), 131 (3), 132 (3), 140 (3)

Humanities 101 (3), 102 (3), 111 (3),

112 (3), 113 (3), 114 (3), 125 (3), 127 (3),

128 (3), 131 (3), 133 (3), 136 (3), 140 (3),

675 (1), 676 (1)

Italian 111 (3), 112 (3), 121(3), 122(3)

Japanese 110 (5), 111 (3), 112 (3), 120 (5),

121 (3), 122 (3)

Latin 112 (3)

Literature 101 (3), 105 (3), 111 (2), 113 (3), 115 (3),

143 (3), 151 (3), 201 (3), 202 (3), 231 (3),

232 (3), 251 (3), 301 (3), 302 (3), 430 (3)

Philosophy 100 (3), 160 (3), 244 (3), 320 (3), 350 (3)

Spanish 110 (5), 111 (3), 112 (3), 120 (5), 121 (3),

122 (3), 130 (5), 131 (3), 132 (3), 133 (3),

140 (3), 161 (3), 162 (3), 201 (2), 202 (2),

251 (3)

Speech 111 (3), 112 (3)

AREA D: Social, Political, and Economic Institutions.

Nine units required, with courses taken in at least two disciplines.

Anthropology 105 (3), 110 (3), 180 (3), 370 (3)

Economics 100 (3), 102 (3)

Ethnic Studies 101 (3), 102 (3), 150 (3), 151 (3),

152 (3), 160 (3), 261 (3), 262 (3), 290 (3),

425 (3), 430 (3), 440 (3)

Geography 110 (3)

History 100 (3), 101 (3), 102 (3), 110 (3), 201 (3),

202 (3), 242 (3), 260 (3), 270 (3), 310 (3),

315 (3), 350 (3), 360 (3)

Humanities 125 (3)

Political Science 100 (3), 110 (3), 130 (3), 150 (3),

170 (3), 200 (5), 205 (5), 210 (3), 212 (3),

215 (3), 220 (3), 250 (3), 255 (3), 260 (3),

310 (2), 415 (3), 520 (3)

Psychology 100 (3), 105 (3), 108 (3), 110 (3),

200 (3), 201 (3), 300 (3), 330 (3), 410 (3), 675 (1)

Sociology 100 (3), 105 (3), 110 (3), 141 (3),

200 (3), 300 (3), 340 (3), 391 (3)

AREA E: Lifelong Understanding and Self Development.

Three units required.

Business 101 (3)

Career 101 (1), 102 (1), 103 (1), 132 (1), 137 (3),

138 (3), 140 (3), 141 (1), 401 (1), 402 (1),

404 (1), 410 (2), 430 (1)

Consumer Arts and Sciences 310 (3)

Ethnic Studies 151 (3), 160 (3)

Health Science 100 (2), 101 (1), 102 (1), 103 (1),

105 (1), 106 (1), 109 (1), 111 (1), 112 (1),

113 (1), 114 (1)

Psychology 100 (3), 108 (3), 110 (3),

300 (3), 330 (3)

Sociology 110 (3), 300 (3), 340 (3), 391 (3)

Speech 120 (3)

In addition to the G.E. requirements listed above, the California State University system requires all graduates to satisfy a requirement in U.S. History and American Ideals, U.S. Constitution, and California State and Local Government. These courses may also be used to satisfy Area D requirements at all CSU campuses except Chico. CSU Chico does not normally allow double counting of these courses.

U.S. History and American Ideals

History 102 (3), 201 (3), 202 (3), 242 (3), 260 (3),

350 (3), 360 (3)

U.S. Constitution

Political Science 200 (5), 205 (5), 210 (3),

212 (3), 215 (3), 220 (3), 250 (3), 255 (3),

260 (3)

California State and Local Government

Ethnic Studies 101 (3), 102 (3)

History 310 (3), 315 (3)

Political Science 200 (5), 205 (5), 310 (2)

Sociology 200 (3)

Intersegmental General Education Transfer Curriculum (IGETC)

The Academic Senates of the University of California, the California State University, and the California Community Colleges approved the implementation in Fall 1991 of an Intersegmental General Education Transfer Curriculum (IGETC), a series of courses that community college students can use to satisfy lower division general education requirements at any CSU or UC campus. The IGETC provides an alternative to the CSU General Education Requirements.

Completion of the IGETC does not guarantee admission to CSU or UC. The IGETC permits a student to transfer from a community college to a campus in either the CSU or UC system without the need, after transfer, to take additional lower-division general education courses to satisfy campus G.E. requirements.

Completion of the IGETC is not a requirement for admission to a CSU or UC, nor is it the only way to fulfill the lower-division general education requirements of the CSU or UC prior to transfer. Students may find it advantageous to take courses fulfilling CSU's general education requirements or those of a particular UC campus. Students pursuing majors that require extensive lower-division major preparation may not find the IGETC option to be their best choice. The IGETC will probably be most useful for students who want to keep their options open before making a final decision about transferring to a particular CSU or UC campus.

In preparing for transfer to a CSU or UC campus in a specific major, students should consult their counselor/advisor concerning recommended *major preparation* courses which parallel those taken by freshmen and sophomores at the CSU/UC campus.

Although UC allows courses taken to meet IGETC requirements to be used as well toward major requirements, certain CSU campuses have limitations on such double-counting of IGETC course work. Students should consult with an appropriate CSU representative concerning the policy of the campus to which they plan to transfer.

IMPORTANT NOTE:

The course requirements for **all areas must be completed** before the IGETC can be certified by College of San Mateo. All

courses must be completed with grades of C or better. A course cannot be used in more than one subject area.

Area 1 - English Communication

CSU – 3 courses required, one from each of the three groups below

UC – 2 courses required, one each from Group A and Group B

Group A: English Composition

ENGL 100, 105

Group B: Critical Thinking

ENGL 165
SOSC 111

Group C: Oral Communication

SPCH 100, 150

Area 2 - Mathematical Concepts and Quantitative Reasoning

CSU and UC – one of the following courses:

ECON 123*

MATH 125, 200, 222, 241, 242, 251, 252, 268

PSYC 121*

* Students who were not UC eligible at high school graduation may not use ECON 123 or PSYC 121 to meet this requirement for UC.

Area 3 - Arts and Humanities

CSU and UC – at least 3 courses which total 9 or more semester units, with at least one course from the Arts and one from the Humanities

Foreign language courses taken to meet this requirement must not overlap in content. For example, since FREN 120 covers the same material as FREN 121 and 122 combined, it is not possible to use both FREN 120 and FREN 121 toward meeting this requirement.

Students who take HIST 201 or 202 may not use HIST 102 to meet this requirement for UC.

Arts Courses

ART 101, 102, 103, 105

ETHN 288, 585

FILM 451, 452

MUS. 100, 202, 240, 250, 275

Humanities Courses

CHIN 131, 132

ETHN 350, 351

FREN 120, 121, 122, 130, 131, 132, 140, 161, 162

GERM 120, 130, 131, 132, 140

HIST 100, 101, 102, 103

HUM. 101, 102, 111, 112, 113, 114, 125, 127, 128, 131, 133, 136

JAPN 120

LIT. 101, 105, 113, 115, 143, 151, 201, 202, 231, 232, 251, 301, 302, 430

PHIL 100, 244, 246, 320

SPAN 120, 130, 131, 132, 140, 161, 162, 251

Area 4 - Social and Behavioral Sciences

CSU and UC – at least 3 courses which total 9 or more semester units, with courses from at least two disciplines.

Courses listed in this area are 3 units each except PLSC 200 (5 units).

Students who take both ETHN 151 and SOCI 141 will receive credit at UC for only one of those two courses.

Students who take both PLSC 200 and 210 will receive credit at UC for only one of those courses.

ANTH 105, 110, 180, 370

ECON 100, 102

ETHN 101, 102, 150, 151, 152, 160, 261, 262, 351, 425, 430

GEOG 110

HIST 110, 201, 202, 242, 260, 270, 310, 350, 360

PLSC 100, 110, 130, 150, 170, 200, 210, 212, 215, 220, 250, 255, 260, 520

PSYC 100, 105, 201, 300, 410

SOCI 100, 105, 141, 200, 300, 340

Area 5 - Physical & Biological Sciences

CSU and UC – at least two courses required, with a total of at least 7 semester units, including at least one Physical Science course and at least one Biological Science course. At least one course must include a laboratory component.

The units associated with each course are shown in parentheses, and courses with a laboratory component are listed with an asterisk (*).

UC will not give credit for PSCI 100 if it is taken after a college course in Astronomy, Chemistry or Physics.

Physical Science

- ASTR 100(3), *101(1)
- CHEM 100(3), *210(5), *224(4)
- GEOG 100(3)
- GEOL 100(3), *101(1), *210(4)
- METE 100(3)
- OCEAN 100(3), *101(1)
- PSCI 100(3)
- PHYS 100(3), *210(4), *250(4)

Biological Science

- BIOL 100(3), 102(3), *110(4), 125(3), 140(3), 145(3), *150(4), 184(3), *200(4), *210(5), *220(5), *230(4), *250(4), *265(4)
- PALN 110(3)

Language Other Than English

UC requirement only – not required of students transferring to CSU

This requirement may be fulfilled through the following: (1) completion of two years of a foreign language in high school with a grade of C or higher; (2) performance on tests such as earning a minimum score of 550 on an appropriate College Board Achievement Test in a foreign language; (3) satisfactory completion of college coursework in a foreign language equivalent to two years of high school instruction; (4) satisfactory completion of two years of formal schooling at 6th grade level or higher where the language of instruction is not English; or (5) completion of any one of the following CSM courses:

- CHIN 122, 131, 132
- FREN 120, 122, 130, 131, 132, 140, 161, 162
- GERM 120, 122, 130, 131, 132, 140
- JAPN 120, 122
- SPAN 120, 122, 130, 131, 132, 140, 161, 162, 201, 251

A course taken to fulfill this UC requirement may *not* also be used toward meeting the Area 3 (Arts and Humanities) requirement.

CSU Graduation Requirement in U.S. History, Constitution, and American Ideals

This requirement is not part of IGETC, but may be completed prior to transfer.

Courses used to meet this requirement **may not be used** to satisfy requirements of Area 3 or 4 of IGETC.

6 units required - one course from Group 1 and one course from Group 2

Group 1: Politics and Government

- ETHN 101, 102
- PLSC 200, 205, 210, 215, 310
- SOCI 200

Group 2: History/Economics

- HIST 102, 110, 201, 202, 310, 315

UC Graduation Requirement in American History and Institutions

This requirement is not a part of IGETC, but may be completed prior to transfer.

The requirement may be satisfied in one of the following ways:

- By taking one year of U.S. history or one-half year of U.S. history and one-half year of U.S. government in high school with a grade of C or better.
- By taking one of the following courses at CSM:
HIST 102, 201, 202
PLSC 200, 210
- By passing certain advanced placement or achievement tests with specified scores as outlined in the catalog of the UC campus to which the student will transfer.

IGETC Advisement

Students Who Have Attended UC or CSU Prior to Enrolling at CSM

The following limitations on the use of IGETC are applicable:

As a general rule, IGETC can be certified for CSM transfers who have also completed transfer units at a CSU or UC provided that the student has completed most (50%) of the transfer units at one or more California Community College(s).

For the UC: Students who initially enroll at a UC campus, then leave and attend a California Community College, and subsequently return to the *same* UC campus are considered “re-admits” by the UC. Such students **CANNOT** use the IGETC. However, students who enroll at a UC campus, then leave and attend a California Community College, and subsequently return to a *different* UC campus *may* be able to use IGETC. Because students leave the UC system under a variety of circumstances, each case will be evaluated on an individual basis by the UC campus applied to.

In all cases where there may be a question about using IGETC after having been enrolled at a campus of the UC or CSU, please contact the university campus you wish to attend.

Course Work Taken at Institutions Outside the United States

Because of the degree of training and expertise required to evaluate course work taken at foreign educational institutions, foreign course work is *not* allowed as part of a student’s IGETC certification. Students with a substantial amount of foreign course work are encouraged to follow the CSU General-Education program or UC campus general education program.

Course Work at Independent or Out-Of-State Institutions

Courses completed at a California independent or out-of-state post-secondary institution may be included in a student’s certification if the Instructional Division determines that the course work completed at another institution is equivalent to course work on CSM’s approved IGETC list. Given that

institutions other than California Community Colleges will not have a combined course in critical thinking-English composition, certification of course work from other institutions to satisfy this requirement is *not* encouraged by UC and CSU.

UC-Bound Transfers

The purpose of the Intersegmental General Education Transfer Curriculum (IGETC) is to provide an option for community college transfer students to fulfill lower division general education/ breadth requirements before enrolling at any campus of the California State University or the University of California.

Since all courses used for the IGETC must be completed before entering the University of California, it is sometimes mistakenly considered an admission requirement. The IGETC does not change existing University and campus-specific transfer admission or prerequisite requirements. However, it is important to understand the relationship of UC admission, general education breadth (IGETC or campus-specific), major preparation and graduation requirements.

UC Admission Requirements

The University has a common set of requirements which specify minimum eligibility, in terms of subject and scholarship level, for admission as a transfer student. However, several campuses and majors have additional requirements (i.e., "selection criteria") that may go well beyond minimum eligibility, and usually include a higher GPA and/or completion of lower division major preparation courses. This is particularly true for programs where the number of applications greatly exceeds the number of spaces available. It is imperative that transfers applying to such campuses and majors meet these additional requirements so they are competitive for admission.

UC General Education/ Breadth Requirements

These requirements are designed to give University undergraduates a broad background in a variety of major academic disciplines. Each school and college at every UC campus has its own set of requirements, accounting for more than 40 general education patterns systemwide. This presents a confusing array of choices for transfer students, especially those applying to more than one UC campus. In an effort to address

this concern and to strengthen preparation, the Academic Senate, in 1988, approved the UC Transfer Core Curriculum which specified a common pattern of courses that transfers could opt to take to fulfill the lower division general education requirements at all UC campuses. The UC Transfer Core Curriculum has now been superseded by the IGETC.

Major Preparation Requirements

These requirements stipulate the courses students need in order to have the appropriate academic background for a particular major. Transfer students who have selected a major should work toward completing all lower division requirements for that major. In fact, in many cases, completing a portion of the major requirements is essential to gain admission to the major at the junior level.

UC Graduation Requirements

These requirements are campus-specific and include courses that all students, regardless of major, must complete in order to graduate.

The IGETC is most advantageous for transfers who have not yet decided on a major or a campus. Once a student has identified a major, it is important for him or her to work toward fulfilling any required preparatory courses - particularly in those professional or "high unit" majors that select applicants on the basis of satisfaction of lower division major requirements. It is important to note that this does not preclude a student from following the IGETC; however, the IGETC should not be done to the exclusion of completing any preparatory courses needed for admission.

In general, it is not advisable for transfers to Engineering majors at any UC campus to use the IGETC. Students entering "high unit" majors, such as those in the sciences, can follow the IGETC but must be careful to complete any needed lower division major preparation. For example, majors in the sciences not only have specific science prerequisites, but also have substantial mathematics requirements.

The listing below specifies the various majors, by campus that have substantial lower division prerequisites that may make the IGETC option inappropriate for transfers to follow:

Berkeley

The College of Engineering, College of Environmental Design, College of Chemistry, and the Haas School of Business all have extensive and very prescribed major requirements. Moreover, the IGETC requirements generally exceed the college-specific breadth requirements in these areas, making the IGETC an ill advised option. Also, the College of Natural Resources does not have College-wide breadth requirements, and therefore, applicants to this College are advised to focus on completing prerequisites for their intended major.

Applicants to the College of Letters and Science can follow the IGETC, keeping in mind that preparation for the major is very important - particularly in the Biological and Physical Sciences (which includes Computer Science). This is also currently true for the following majors: Development Studies, Mass Communications, Political Economy of Industrial Societies, and Psychology.

Davis

The IGETC is not appropriate for students transferring to majors in the College of Engineering. In addition, majors in Biological Sciences, Psychology, and Environmental Policy Analysis and Planning are "high unit" majors with lower division preparation needed for admission. The IGETC can be done, but students must take care to meet the lower division requirements for these majors.

Irvine

The IGETC is not optimal for transfers to the Schools of Engineering, Biological Sciences or Physical Sciences. Students entering any major can use the IGETC, but should consider lower division degree requirements and major preparation when planning their programs.

Los Angeles

The IGETC is not appropriate for students transferring to the School of Engineering and Applied Science, and the School of Nursing. All majors in the School of Theater, Film and Television, the School of the Arts, and the College of Letters and Science will honor the IGETC. Students entering majors that require specific or substantial preparation, such as science majors, may use the IGETC but need to carefully plan their programs.

Riverside

The IGETC is not appropriate for students transferring to the College of Engineering. Students entering the Biological or Physical Sciences should be aware that the IGETC requirements exceed the breadth requirements for the College of Natural and Agricultural Sciences, and that these majors require substantial lower division preparation. The IGETC works well for all majors in the College of Humanities and Social Sciences. Students preparing to study Business Administration are encouraged to complete the IGETC, as well as lower division major preparation, to promote admission to this program.

San Diego

The IGETC is not appropriate for students transferring to majors in the Division of Engineering. Students entering any other major, however, can successfully use the IGETC. It is important to remember that two of the five colleges at San Diego, Fifth and Revelle, will not accept the IGETC.

Santa Barbara

The IGETC is not appropriate for students transferring to the College of Engineering. Students planning to major in: Biological Sciences, Biopsychology, Chemistry, Environmental Science, Geology, or Geophysics can use the IGETC, but must be careful to complete lower division major prerequisites if they are to make normal, timely progress through the major.

Santa Cruz

Although all majors at UCSC will honor the IGETC, students planning to major in: Biological Sciences, Chemistry, Computer and Information Sciences, Computer Engineering, or Earth Sciences, must pay special attention to completing lower division major prerequisites if they are to make normal, timely progress through the major. This information is intended to serve as a guideline for advising UC-bound transfers about the IGETC option. Since each student's circumstances differ, please work closely with your advisor to evaluate whether the IGETC makes good sense based on your academic background and choice of campus and major.

Recommended General Education Courses for Transfer to Selected Independent Colleges and Universities

Students planning to transfer to one of the following colleges and universities:

California College of Arts and Crafts
College of Notre Dame
Dominican College
Holy Names College
Menlo College
Mills College
Santa Clara University
Saint Mary's College
Stanford University
University of Phoenix
University San Francisco
University of Southern California
Westmont College

are advised to take lower division general education courses at College of San Mateo as listed below. Those planning to transfer to other California or out-of-State public or private colleges or universities are advised to follow the IGETC-UC pattern until they contact the institution to which they plan to transfer for more precise recommendations.

CALIFORNIA COLLEGE OF ARTS AND CRAFTS

- A. English:** ENGL 100, 110
B. Art History: ART 101, 102, 103; two of the following: ARCH 100; ART 105, 106, 108.
C. History of World Cultures: ANTH 110; HIST 100, 110.
D. Social Science and Philosophy: One course from Anthropology, Geography, History, Philosophy, Psychology, or Sociology.
E. Physics for Architecture (BArch requirement): PHYS 210 or PHYS 220-270 (any one class)
F. Quantitative Thinking (BFA requirement): One of the following: MATH 125-275
G. Mathematics for Architecture (BArch requirement) One of the following: MATH 241 or MATH 251
H. Humanities and Sciences Electives: (any courses transferable to CSU)
BFA: Two electives BArch: One elective
Transferability of Studio Coursework: Studio coursework may only be transferred to satisfy CCAC requirements through a portfolio evaluation. See CCAC enrollment Counselor for specific Art History requirements for Interior Architecture (BFA) and Architecture (BArch) majors.

COLLEGE OF NOTRE DAME

- A. Western Culture:** ENGL 100 or 105; One of the following: ENGL 110-165; LIT 101-430; One of the following: PHIL 100-350
B. Foreign Language and International Studies: Two of the following for Intercultural Studies requirement: ANTH 105, 110, 370; ART 105; ETHN 101-585; GEOG 110; HIST 242; HUM 131, 133; LIT 301, 302; MUS 240, 250, PHIL 320; PLSC 260, 520; SPAN 251
At least 6 units of courses in the same language for Foreign Language requirement: CHIN 111-122; FREN 110-122; GERM 110-122; ITAL 111, 112; JAPA 110-122; LAT 111, 112; SPAN 110-122; Or, at least 3 units from CHIN 131, 132; FREN 130-162; GERM 130-140, SPAN 130-251
C. Science, Behavior, and Technology
One of the following for Behavioral Science requirement: ANTH 105, 110, 370; BUS 101, 102; ETHN 150, 151, 160; GEOG 110; MGMT 220; PSYC 100-110, 200-410; SOCI 100-300, 391
One of the following for Natural Science requirement: ASTR 100; BIOL 100-266 (except 180); CHEM 100-420; CA&S 310; GEOG 100; GEOL 100-220; HORT 320; HUM 127+128; METE 100; OCEN 100; PALE 110; PSCI 100; PHYS 100-270
One of the following for Mathematics requirement: Math 125-275; ECON 123, PSYC 121.
One of the following for Natural Science, Mathematics, Computer Science, Logic requirement: BUS 295; CIS 110-370; ELEC 201, 202, 210, 310, 231+232; ENGR 210-270
D. Values & Beliefs: Two of the following: ANTH 180; ETHN 350; HUM 111, LIT 105; PHIL 350; PSYC 110; SOCI 110
E. The Arts: One of the following: ARCH 100, 140, 145, 210; ART 101-412; BCST 110-244 (except 192); DANC 131+132, 141+143, 411+412; ELEC 292, 293; ETHN 288, 585; FILM 451-462; HUM 112, 127+128; LIT 143, 151, 153; MUS 100-490; SPCH 111, 112; TA&G 201, 202, 220, 310
- ### DOMINICAN COLLEGE
- A. Human Nature:** One of the following: LIT 101, 201, 202, 231, 232, 301, 302
B. Verbal Expression: ENGL 100
C. Natural World: One of the following: ASTR 100+101; BIOL 110, 111, 150, 200, 210, 220, 265, 266; CHEM 192, 210, 220, 224, 225, 231, 232, 250, 410, 420; GEOL 100+101, 210; OCEN 100+101; PHYS 210, 220, 250
D. Quantitative Reasoning: At least 3 units from the following: MATH 122, 123, 130, 200, 222, 231, 241, 251-275
E. Cross Cultural Perspectives: One of the following: ANTH 110; ART 101, 102, 103, 106, 108; ETHN 101, 102, 150, 261, 262, 350, 351, 425; GEOG 110; HIST 100, 110, 201, 202, 242, 260, 270, 310, 350, 360, 810; HUM 101-133; PLSC 110, 170, 200, 215, 220, 250, 310, 520; SOSOC 220, 221; MUS 202

- F. Human Relationships:** Two of the following: PLSC 100, 130, 150, 205, 210, 255, 260; PSYC 100, 105, 110; SOCI 100, 105, 110, 141, 200, 391; SPCH 120, 150, 184
- G. Creativity in the Arts:** At least 3 units from the following: ARCH 120, 130, 140, 145, 210, 220; ART 201-328, 352, 353, 354, 355, 405-412; DANC 121-148, 380, 411; ENGL 161, 162, 163, 165; MUS 301-495; TA&G 201, 202, 210, 220; FILM 463

HOLY NAMES COLLEGE

- A. English:** Two of the following: ENGL 100, 110, 120, 130, 140, 165; One of the following: SPCH 100, 120
- B. Western Civilization/History:** Two CSU- or UC-transferable courses in U.S. History and Political Science
- C. Religion/Philosophy:** Two CSU- or UC-transferable courses in Philosophy
- D. Foreign Language:** Two courses which are 120/122-level or higher
- E. Mathematics:** One mathematics course beyond high school algebra and geometry, and CIS 110 or CIS 115+116 or CIS 250+251
- F. Behavioral Science:** One CSU- or UC-transferable course in Psychology, Social Science, Anthropology, Geography
- G. Fine Arts:** One course in Art, Theatre, or Music
- H. Humanistic Studies:** Two CSU- or UC-transferable courses in Humanities

MENLO COLLEGE

- A. Western Culture:** HUM 101, 102
- B. English Usage:** ENGL 100 and two of the following: ENGL 110, 120, 130, 140, 165
- C. Quantitative Skills:** One of the following: MATH 110, 111, 112, 115, 120, 122, 123 or higher
- D. Computer Competency:** CIS 100 or equivalent
- E. Critical Thinking and Problem Solving:** SOSC 111
- F. American Institutions:** HIST 201; PLSC 200, 210
- G. Social Sciences:** One of the following: ANTH 110, 180; ECON 100, 102; ETHN 101, 102, 150, 151, 152, 160, 290; GEOG 110; PLSC 100, 110, 130, 150, 170, 205, 215, 220, 250, 255, 260, 310, 520; PSYC 100, 105, 108, 110, 201, 300, 330, 410; SOCI 100, 105, 110, 141, 200, 320
- H. Laboratory Sciences:** One of the following for Biological Sciences requirement: BIOL 110, 111, 150, 200, 210, 220, 230, 240, 250, 260, 265, 266.
One of the following for Physical Sciences requirement: ASTR 100+101; CHEM 192, 210, 220, 224, 225, 231, 232, 250; GEOL 100+101, 210, 220; OCEN 100+101; PHYS 210, 220, 250, 260, 270
- I. Humanities:** Two of the following: ARCH 100; ART 101, 102, 103, 106, 108, 151, 152; ENGL 120, 130, 140; ETHN 261, 262, 288, 350, 351, 425, 430, 585; FILM 451, 452; HIST 100, 101, 102, 110, 202, 242, 260, 270,

310, 315, 350, 360; HUM 111, 112, 113, 115, 127, 128, 131, 133, 136, 140; LIT 101, 105, 111, 113, 115, 143, 151, 153, 201, 202, 231, 232, 251, 301, 302, 430; MUS 202, 275; PHIL 100, 244, 246, 320.

Completion of two consecutive semesters of one foreign language at college level: CHIN 111+112, 121+122, 131+132; FREN 110, 111+112, 115+116, 120-140; GERM 110, 111+112, 120, 121+122, 130, 131+132, 140; JAPA 110, 111+112, 120, 121+122; LAT 111+112; SPAN 110, 111+112, 120-140; or completion of two upper division courses after transfer.

J. Physical Education: Completion of any physical education activity course(s) for a minimum of two units

MILLS COLLEGE

Students interested in transfer to Mills College should follow the UC pattern of CSM's Intersegmental General Education Transfer Curriculum (IGETC).

SANTA CLARA UNIVERSITY

College of Arts and Sciences: Bachelor of Arts degrees: Art, Chemistry, Classics, Communication, English, French, German, History, Italian, Liberal Studies (Pre-Teaching), Music, Philosophy, Religious Studies, Spanish, and Theatre and Dance.

- A. English 100, 110**
- B. One college-level mathematics course such as MATH 125 or 200 (Check the SCU Bulletin for major requirements.).**
- C. One course in a Biological or Physical science such as ASTR 100; BIOL 100, 102, 110, 125, 130, 140, 150, 160, 200, 210, 220, 230; CHEM 100, 192, 210, 220, 224, 225, 231, 232, 250; GEOG 100; GEOL 100, 210; METE 100; OCEN 100; PALE 110; PSCI 100; or PHYS 100, 210, 220, 250, 260, 270.**
- D. Two courses from one of the following sequences of Western Culture: ART 101, 102, 103; HIST 100, 101, or HUM 101, 102.**
- E. One additional course in mathematics and one additional course in science.**
- F. Foreign language requirement: Four years of one language in high school or 2 semesters of one language at CSM at the 120-level or above.**
- G. One course of an introductory nature such as: ANTH 110; ECON 100, 102; PLSC 100, 110, 130, 150; PSYC 100, 201, 300; or SOCI 100, 105, 300.**
- H. One course of studio/performing art or music such as: ART 201, 202, 223, 224, 301, 305; MUS 101, 102, 131, 132; or SPCH 100.**
- I. One course in ethnic or women's studies such as: ETHN 101, 102, 150, 151, 152, 160, 261, 262, 288, 290, 350, 351, 425, 430; HIST 260; or HUM 131, 132, 136.**
- J. Religious studies, ethics, and a third course in English composition are required but usually taken at Santa Clara after transfer.**
- College of Arts and Sciences: Bachelor of Science degrees: Anthropology, Biology, Chemistry, Combined Sciences, Economics, Engineering Physics, Mathematics and**
- Computer Science, Physics, Political Science, Psychology, and Sociology.**
- A. English 100, 110**
- B. One college-level mathematics course such as MATH 125, 200, 241, 242, 251, or 252 (Check the SCU Bulletin for major requirements.).**
- C. One course in a Biological or Physical science such as ASTR 100; BIOL 100, 102, 110, 125, 130, 140, 150, 160, 200, 210, 220, 230; CHEM 100, 192, 210, 220, 224, 225, 231, 232, 250; GEOG 100; GEOL 100, 210; METE 100; OCEN 100; PALE 110; PSCI 100; or PHYS 100, 210, 220, 250, 260, 270.**
- D. Two courses from one of the following sequences of Western Culture: ART 101, 102, 103; HIST 100, 101, or HUM 101, 102.**
- E. One additional course in mathematics and one additional course in science.**
- F. Foreign language requirement: Four years of one language in high school or 2 semesters of one language at CSM at the 120-level or above.**
- G. One of the following courses outside the major such as ANTH 110; ECON 100, 102; PLSC 100, 110, 130, 150; PSYC 100, 201, 300; or SOCI 100, 105, 300.**
- H. One of the following courses in ethnic or women's studies such as ETHN 101, 102, 150, 151, 152, 160, 261, 262, 288, 290, 350, 351, 425, 430; HIST 260; or HUM 131, 132, 136.**
- I. Religious studies, ethics and a third course in English composition are required, but usually taken at Santa Clara after transfer.**
- Leavey School of Business and Administration**
- A. ENGL 100 and 110**
- B. MATH 241 and 242 or MATH 251 and 252**
- C. ACTG 121 and 131**
- D. ECON 100 and 102**
- E. Two courses from one of the following sequences in Western culture: ART 101, 102, 103; HIST 100, 101; or HUM 101, 102.**
- F. Foreign language requirement: Four years of one language in high school or 2 semesters of one language at CSM at the 120-level or above.**
- G. One course in statistics: MATH 200**
- H. One introductory computer class such as CIS 110 or 115/116**
- I. Religious studies, ethics and a third course in English composition are required, but usually taken at Santa Clara after transfer.**
- School of Engineering**
- A. ENGL 100 and 110**
- B. MATH 251, 252, 253, 275**
- C. CHEM 224 and 225; or CHEM 210 and 220**
- D. PHYS 250, 260, 270**
- E. Two courses from one of the following sequences in Western culture: ART 101, 102, 103; HIST 100, 101; or HUM 101, 102**
- F. Any two courses in social science such as ANTH 110; ECON 100, 102; PLSC 100, 110, 130, 150; PSYC 100, 201, 300; or SOCI 100, 105, 300**
- G. One course in computer science: CIS 240**
- H. One computer-based graphics course: ENGR 210**

- I. One course in statics: ENGR 230
 J. One course in circuits: ENGR 260
 K. Religious studies, ethics and a third course in English composition are required, but usually taken at Santa Clara after transfer.

ST. MARY'S COLLEGE

- A. Collegiate Seminar:** HUM 101, 111
B. Religious Studies: LIT 105
C. Humanities: Two of the following: ART 101, 102, 103, 106, 108; ENGL 120, 130, 140, 161, 162, 163, 165, 200, 210; ETHN 267, 288, 510, 585; FILM 451, 452; JOUR 110, 120; MUS 100, 101, 131, 202, 275; PHIL 100; SPCH 100, 111, 112, 120, 150, 184
D. Math/Science: Two of the following: any CSU- or UC-transferable course from Astronomy, Biology, Chemistry, Engineering, Geology, Mathematics, Meteorology, Oceanography, Paleontology, Physical Science, Physics; any CSU- or UC-transferable course after credit for CIS 115/116; GEOG 100
E. Social Science: Two of the following: ECON 100, 192; GEOG 110; Any transferable courses from Anthropology, Ethnic Studies, History, Political Science, Psychology, Social Science, Sociology
F. Written English: ENGL 100; One of the following: ENGL 110, 120, 130, 140, 161, 162, 163, 165

STANFORD UNIVERSITY

Students are encouraged to select as rigorous an academic program as possible, and achieve distinction and excellence in a range of academic courses. In evaluating a student's academic record, Stanford must see that the candidate can sustain an excellent record of achievement; it is strongly recommended that prospective applicants take a full-time load for at least one year before applying for transfer.

In addition to completion of selected major requirements, students are encouraged to have a broad, balanced and rigorous liberal arts education that includes course work in the humanities, social sciences, and natural sciences. Students may wish to consider the IGETC-UC program of requirements when looking for a model of a rigorous and balanced program. Yet even when selecting courses on the IGETC list, students should choose the more rigorous courses. Like those who enter Stanford as freshmen, junior transfer students are expected to have completed courses in a wide range of disciplines, including humanities, social science, mathematics, science, and technology. Students are encouraged to enroll in CSM honors courses.

For students who propose to use work taken at another college or university to satisfy a Stanford graduation requirement, the Office of the Registrar's credit evaluation staff determines, after appropriate faculty

consultation, whether the work is comparable to any of the specifically certified Stanford courses or course sequences.

UNIVERSITY OF PHOENIX

(Northern California Campus)
 CSM's Intersegmental General Education Transfer Curriculum (IGETC) will allow a student to transfer to UOP without having to take any additional lower division education. Students need to fulfill CSU IGETC areas 1-5 only.

UNIVERSITY OF SAN FRANCISCO

- A. Foundational Skills (9 units):** ENGL 100, 165; SPCH 100; ECON 123 or MATH 200 or PSYC 121
B. Natural Science (6 - 10 units): BIOL 110, 210, 220; CHEM 210, 220, 224, 225; GEOL 100+101, 210; OCEN 100+101; PHYS 210, 220, 250, 260, 270
C. History and The Social Science (9 units): HIST 100, 101, 102, 201, 202; SOCI 105
D. Cultural Perspectives (6 units): LIT 251
E. Literature and The Arts (6 units): ART 101, 102, 103, 106, 108; LIT 301, 302; MUS 202, 240, 250
F. Philosophy and Theology (15 units): PHIL 100, 244, 246; additional courses required at USF after transfer.

UNIVERSITY OF SOUTHERN CALIFORNIA

- A. Composition Skill Level:** Two of the following: ENGL 100, 110, 120, 130, 140, 165
B. Foreign Language Skill Level: completion of the third semester of a college-level foreign language (120/122-level or above) with a passing grade, or passing USC's placement examination
C. Mathematics Skill Level: One of the following: MATH 222, 241+242, 251
D. Areas of Study:
 1. *The Natural World:* a. Earth Sciences (one course from following): ASTR 100/101; ANTH 110; GEOG 100; GEOL 100; METE 100; OCEN 100; PALN 110. b. Life Sciences (one course from the following): BIOL 100, 102, 110, 125, 130, 140, 145, 150, 160, 180, 184, 200, 210, 220, 230, 240, 250, 260, 265, 266. c. Physical Sciences (one course from the following): ASTR 100; CHEM 100, 192, 210, 220, 224, 225, 231, 232, 250; PSCI 100; PHYS 100, 210, 220, 250, 260, 270.
 2. *American Public Life* (one course from the following): ETHN 101, 102, 262, 425; HIST 202, 242; PLSC 200, 210, 220, 250, 255, 260, 310.
 3. *Western Culture I* (one course from following): ART 101; HIST 100; HUM. 101, 111, 112, 127; LIT. 105, 301.
 4. *Western Culture II* (one course from following): ART 102, 103; HIST 101; HUM. 102, 113, 128.

5. *Non-Western Cultures* (one course from following): ANTH 110, 180; ETHN 350, 351; PLSC 520.
 6. *Empirical Approaches* (one course from following): ANTH 110, 180; ECON 100, 102; ETHN 150, 151, 152, 160, 290; GEOG 110; PLSC 100, 110, 130, 150, 215, 220, 250, 255, 260, 520; PSYC 100, 105, 201, 300, 410; SOCI 100, 105, 141, 200, 300.
 7. *Literature* (one course from the following): LIT. 101, 105, 113, 115, 143, 151, 200, 201, 202, 231, 232, 251, 301, 302.
 8. *The Arts* (one course from the following): ART 101, 102, 103, 106, 108; FILM 451, 452; HUM. 112, 114, 136; MUS. 202, 275.
 9. *Ethical Approaches* (one course from the following): PHIL 224.

Some courses are listed for credit in two categories. Credit for only one category will be assigned. Only two courses counted toward the major will also fulfill general education requirements. No more than 12 units of pass/no pass credit may be applied to general education requirements. In no case may a student count more than two courses from any one department to fulfill general education requirements in the Areas of Study. Students must take one lab course from the Natural World Area of Study.

WESTMONT COLLEGE

- A. Composition:** ENGL 100
B. Mathematics: MATH 120 or 123
C. Foreign Language: Two years in high school or one year in college of any foreign language
D. Interdisciplinary Studies: HIST 100, 101
E. Breadth Requirement:
 1. One of the following for Social Science requirement: ECON 100, 102; ETHN 101, 102; GEOG 110; HIST 102, 110, 201, 202, 242, 260, 270, 310, 360, 425; PLSC 100, 110, 130, 150, 170, 200, 210, 220, 250
 2. One of the following for Behavioral Science: ANTH 110; PSYC 100; SOSOC 100, 105
 3. One of the following for Fine Art requirement: ART 101, 102, 103, 106, 108; FILM 451; HUM 101, 102; MUS 202, 275
 4. One of the following for Literature requirement: ENGL 110, 120, 130, 140; FREN 161; LIT 101, 105, 113, 115, 143, 151, 200, 201, 202, 231, 232, 301, 302
 5. Philosophy: PHIL 100
 6. Mathematics/Science: One course in each of two areas or a sequence of two laboratory course in Biology, Chemistry or Physics.
a. Physical Science: ASTR 100; CHEM 100, 192, 210; GEOG 100; GEOG 100, 210; OCEN 100; PSCI 100; PHYS 100, 210, 250.
b. Biological Science: BIOL 100, 110, 125, 130, 150, 200, 210, 220, 230, 250, 260, 265, 266.
c. Mathematics: MATH 125, 222, 241, 251.
 Acceptable Sequence: BIOL 210 & 220, or 220 & 230; CHEM 210 & 220, or 224 & 225; PHYS 210 & 220 or 250 & 260

Major Preparation Recommendations

Major preparation recommendations list the CSM courses which students are advised to take in preparation for transfer to the specified university in the specified major field. These courses are equivalent to the corresponding lower division courses at the university which prepare freshman and sophomore students for junior-level work in the major. Students should make every effort to complete these CSM courses before transfer.

CSM has major preparation recommendations for the following universities for the majors listed. If the university and/or major in which a student is interested is not listed, the student should consult with the Transfer Center or a counselor/advisor for guidance.

University of California, Berkeley

African-American Studies
Anthropology
Architecture
Art
Astrophysics
Bioresource Sciences
Business Administration
Chemical Engineering
Chemistry
Civil Engineering
Computer Science A.B. & B.S.
Conservation and Resource Studies
Development Studies
Economics
Electrical Engineering and Computer Science
Engineering Science
English
Forest Products
Forestry and Resource Management
Geography
Geology
History
Human Biodynamics
Industrial Engineering and Operations Research
Integrative Biology

Landscape Architecture
Latin American Studies
Legal Studies
Manufacturing Engineering
Mass Communications
Materials Science and Mineral Engineering
Mathematics/Applied Mathematics
Mechanical Engineering
Molecular & Cell Biology, Option I: Emphases in Biochemistry and Molecular Biology, Genetics, Immunology, or Microbiology
Molecular & Cell Biology, Option II: Emphases in Cell Physiology, Cell and Development Biology, or Neurobiology
Molecular & Cell Biology, Option III: Emphasis in Biophysics
Naval Architecture and Offshore Engineering
Nuclear Engineering
Nutritional Sciences
Petroleum Engineering
Physical Education
Physics
Plant Biology
Political Economy of Industrial Societies
Political Economy of Natural Resources
Political Science
Psychology
Rhetoric
Social Sciences
Social Welfare

University of California, Davis

Aeronautical Science and Engineering
African-American and African Studies A.B.
Agricultural Engineering B.S.
Agricultural Engineering B.S. (Aquacultural Engineering option)
Agricultural Engineering B.S. (Food Engineering option)
Agricultural Engineering B.S. (Forest Engineering option)
Agricultural Systems and Environment B.S.
Agricultural and Managerial Economics B.S.
American Studies A.B.
Animal Science B.S.
Animal Science and Management B.S.
Anthropology A.B.
Anthropology B.S.
Applied Behavioral Science B.S.
Applied Physics B.S.
Art History A.B.
Art Studio A.B.
Atmospheric Science B.S.

Avian Sciences B.S.
Biochemistry B.S.
Biological Sciences A.B.
Biological Sciences B.S.
Biological Systems Engineering B.S.
Chemical Engineering & Chemical/Materials Engineering B.S.
Chemistry A.B.
Chemistry B.S.
Chicana/Chicano Studies A.B.
Civil Engineering & Civil/Materials Engineering B.S.
Classical Civilization A.B.
Community Nutrition B.S.
Comparative Literature A.B.
Computer Engineering B.S.
Computer Science & Engineering B.S.
Computer Science B.S.
Design B.S.
Dietetics B.S.
Economics A.B.
Electrical Engineering & Electrical/Materials Engineering B.S.
English A.B.
Entomology B.S.
Environmental Biology and Management B.S.
Environmental Policy Analysis & Planning B.S.
Environmental Toxicology B.S.
Environmental and Resource Sciences B.S.
Fermentation Science B.S.
Fiber & Polymer Science B.S.
Food Biochemistry B.S.
Food Engineering B.S.
Food Science B.S.
Genetics B.S.
Geography B.S.
Geology A.B.
Geology B.S.
German A.B.
History A.B.
Human Development B.S.
International Agricultural Development (Natural Sciences) B.S.
International Agricultural Development (Social Sciences) B.S.
International Relations A.B.
Landscape Architecture B.S.
Materials Science & Engineering B.S.
Mathematics A.B.
Mathematics B.S.
Mechanical Engineering & Mechanical/Materials B.S.
Medieval Studies A.B.
Microbiology A.B.
Microbiology A.B. (Bacteriology)
Microbiology B.S.
Music A.B.

Native American Studies A.B.
Nutrition Science B.S.
Physical Education A.B.
Physical Education B.S.
Physics A.B. & B.S.
Physiology
Physiology B.S.
Plant Biology (Botany) A.B.
Plant Biology (Botany) B.S.
Plant Science B.S.
Political Science A.B.
Political Science A.B. (Public Service)
Psychology A.B.
Psychology B.S. (Biology)
Psychology B.S. (Mathematics)
Religious Studies A.B.
Rhetoric and Communication A.B.
Sociology (Comparative Studies and World Development emphasis)
Sociology (Law and Society emphasis)
Sociology A.B.
Sociology A.B. (Social Services)
Sociology-Organizational Studies A.B.
Soil & Water Science B.S.
Spanish A.B.
Statistics A.B.
Statistics B.S. (Computer Science)
Statistics B.S. (General Option)
Textile Clothing B.S. (Marketing)
Textile Clothing B.S. (Multidisciplinary)
Veterinary Medicine
Wildlife & Fisheries Biology B.S.
Women's Studies A.B.
Zoology A.B.
Zoology B.S.

University of California, Irvine

Biological Sciences

University of California, Los Angeles

Business Economics
Economics

University of California, Riverside

Business Administration

University of California, Santa Barbara

Biochemistry-Molecular Biology B.A.
Biological Sciences and Aquatic Biology B.A.
Botany and Zoology B.A.
Business Economics/Economics B.A.
Chemistry B.A. & B.S.
Ecology and Evolution B.A.
Economics/Mathematics B.A.

History B.A.
 Mathematics and Mathematical
 Sciences B.A. & B.S.
 Microbiology B.S.
 Pharmacology B.A. & B.S.
 Physics B.A. & B.S.
 Physiology and Cell Biology B.A.

University of California, Santa Cruz

Anthropology
 Art History
 Biology
 Chemistry
 Chemistry, B.A.
 Computer Engineering
 Earth Sciences
 Economics
 Economics (Business Pathway)
 Environmental Studies
 History
 Mathematics
 Philosophy
 Physics
 Politics
 Psychology
 Sociology

California College of Arts and Crafts

Architecture

Menlo College

Biotechnology Management
 Business Administration
 Communications
 Computer Information Systems
 Computer Science
 Humanities
 Psychology (Counseling
 Psychology Option)
 Psychology (Human Resource
 Management Option)

College of Notre Dame

Business Administration

St. Mary's College of California

Accounting
 Art
 Biology
 Business Administration
 Business Administration
 (Financial Services Management
 Emphasis)
 Chemistry
 Communications
 Computer Science
 Economics
 Engineering
 English
 French
 Government
 Health Science
 Health, Physical Education &
 Recreation
 History
 Liberal Arts (Diversified)
 Mathematics
 Nursing

Philosophy
 Psychology
 Religious Studies
 Spanish

Santa Clara University

Business Administration
 Civil Engineering
 Computer Engineering
 Electrical Engineering
 Mechanical Engineering

University of the Pacific

Civil Engineering
 Computer Engineering
 Electrical Engineering
 Engineering Physics
 Management Engineering
 Mechanical Engineering
 Pre-Pharmacy

University of Southern California

Business Administration

University of San Francisco

Business Administration
 Nursing

Cleveland Chiropractic College of Los Angeles

Chiropractic

Los Angeles College of Chiropractic

Chiropractic

Palmer College of Chiropractic West

Pre-Chiropractic

Southern California College of Chiropractic

Chiropractic

New Mexico Institute Mining and Technology

Basic Sciences
 Biology (B.S.)
 Biology with Environmental
 Science Option (B.S.)
 Biology with Medical Technology
 Option (B.S.)
 Business Administration:
 Accounting Option (B.S.)
 Business Administration:
 Business Computer Option
 (B.S.)
 Business Administration:
 Management Option (B.S.)
 Chemistry (B.S.)
 Chemistry: Biochemistry Option
 (B.S.)
 Chemistry: Environmental
 Science Option (B.S.)
 Computer Science (B.S.)
 Electrical Engineering (B.S.)
 Engineering Mechanics (B.S.)
 Engineering Science (B.S.)
 Engineering Science: Electronics
 Option (B.S.)

Environmental Engineering (B.S.)
 Geology (B.S.)
 Geophysics (B.S.)
 Materials Engineering (B.S.)
 Materials Engineering:
 Metallurgical Engineering
 Option (B.S.)
 Mathematics (B.S.)
 Mathematics: Applied Numerical
 Analysis Option (B.S.)
 Mineral Engineering: Emphasis in
 Geological Engineering (B.S.)
 Mineral Engineering: Emphasis in
 Mining Engineering (B.S.)
 Petroleum Engineering (B.S.)
 Physics (B.S.)
 Physics: Astrophysics Options
 (B.S.)
 Physics: Computer Science
 Option (B.S.)
 Physics: Electronics Option (B.S.)
 Physics: Environmental Science
 Option (B.S.)
 Psychology (B.S.)
 Technical Communication (B.S.)

Embry-Riddle Aeronautical University

Aerospace Engineering
 Aviation Computer Science
 Aviation Maintenance
 Management

California State University, Chico

Agriculture B.S.
 Art B.A. and B.F.A.
 Biological Sciences B.S.
 Business Administration B.S.
 Chemistry B.S.
 Civil Engineering B.S.
 Computer Engineering B.S.
 Computer Information Systems
 B.S.
 Computer Science B.S. (General
 Computer Science Option)
 Computer Science B.S. (Math/
 Science Option)
 Construction Management B.S.
 Dietetics and Food
 Administration B.S.
 Economics B.A.
 Electrical Engineering B.S.
 Electronic Engineering B.S.
 Geography B.A.
 Geology B.S.
 Health Science B.S. (Applied
 Health Option)
 Health Science B.S. (Community
 Health Education Option)
 Health Science B.S. (Gerontology
 Option)
 Health Science B.S. (Health
 Services Administration Option)
 Health Science B.S. (School
 Health Option)
 History B.A.
 Industrial Arts
 Industrial Technology B.S.
 (Electronics and Computer
 Technology Option)

Industrial Technology B.S.
 (Manufacturing Systems
 Management Option)
 Industrial Technology B.S.
 (Polymer Technology Option)
 Information and Communication
 Studies B.A.
 International Relation B.A.
 (Environmental Issue Option)
 Liberal Studies B.A.
 Mathematics B.S.
 Mechanical Engineering B.S.
 Microbiology B.S.
 Music B.A.
 Nursing B.S.
 Physical Education B.A.
 Physical Science B.S.
 Physics B.S.
 Pre-Business
 Psychology B.A.
 Recreation Administration B.S.
 (Therapeutic Recreation Option)

California State University, Fresno

Pre-Physical Therapy

California State University, Hayward

Anthropology
 Art
 Biological Sciences
 Business Administration
 Chemistry
 Computer Science
 Criminal Justice Administration
 Economics
 English
 English (Language Option)
 Environmental Studies
 Ethnic Studies
 French
 Geography
 Geology
 German
 Health Science
 History
 Liberal Studies: Credential Track
 Liberal Studies: Liberal Arts
 Track
 Mathematics
 Music
 Physical Science
 Physics
 Political Science
 Psychology
 Spanish
 Speech Communication

Humboldt State University

Business Administration
 Fisheries
 Forestry
 Natural Resources Planning and
 Interpretation
 Oceanography
 Range Management
 Wildlife Management

**California State University,
Long Beach**

Business Administration
Pre-Physical Therapy

**California State University,
Los Angeles**

Business Administration
Business Education
Computer Information Systems
Economics

**California State University,
Northridge**

Business Administration

**California State Polytechnic
University, Pomona**

Business Administration

**California State University,
Sacramento**

Anthropology
Art
Biology
Business
Chemistry
Communication Studies
Computer Engineering
Computer Science B.S.
Criminal Justice
Economics
Engineering
English
Environmental Studies
Geography
Geology
Government
History
Home Economics-Child & Family
Development
Home Economics-Environmental
Design and Textiles, Clothing &
Merchandising and General
Home Economics
Home Economics-Home
Management, Family
Economics & Consumer Studies
Home Economics-Nutrition &
Foods concentration
Humanities
Journalism
Liberal Studies
Mathematics
Music
Nursing
Philosophy
Physics
Psychology
Social Science
Sociology

San Diego State University

Business Administration

San Francisco State University

Anthropology
Art
Biochemistry
Biology:Concentration in Botany

Biology:Concentration in Cell
and Molecular Biology
Biology:Concentration in Ecology
Biology:Concentration in Marine
Biology and Limnology
Biology:Concentration in
Microbiology
Biology:Concentration in
Physiology
Biology:Concentration in Zoology
Biology:General Biology
Business Administration
Chemistry B.A.
Chemistry B.S.
Chinese
Clinical Science
Computer Science
Dance: Concentration in
Ethnology
Dance: Concentration in
Performance/Choreography
Dietetics
Economics
Engineering:Civil, Electrical and
Mechanical Engineering
Film
French
Geography
Geology B.A.
Geology B.S.
Geosciences: Concentration in
Meteorology
German
Health Science
History
Home Economics
Hospitality Management
Industrial Technology (or
Industrial Art)
International Relations
Japanese
Journalism
Mathematics and Applied
Mathematics
Music
Nursing (R.N. and Non-R.N.)
Philosophy
Physical Education
Physics B.A. or B.S.
Political Science
Pre-Physical Therapy
Psychology
Radio and Television
Sociology
Spanish
Statistics

San Jose State University

Administration of Justice B.S.
Advertising B.S.
Aerospace Engineering B.S.
African-American Studies B.A.
Anthropology B.A.
Applied and Computational
Mathematics B.S.
Art: Art History and General
Design Studies Concentrations
Art: General Studio Practice
Concentration, Art Education
Emphasis
Art: General Studio Practice
Concentration, Ceramics,
Crafts, Painting and Drawing,
Printmaking, Sculpture
Emphases
Art: General Studio Practice
Concentration, Photography
Emphasis
Aviation B.S.
Behavioral Science B.A.
Behavioral Science with a Double
Major in Psychology B.A. (or
Sociology B.A.)
Biological Science B.A.
Biological Science B.S.: Applied
Microbiology, Marine Biology,
Medical Microbiology and
Immunology Concentrations
Biological Science B.S.: Botany,
Entomology, General Biology,
Zoology Concentrations
Biological Science B.S.: Clinical
Laboratory Science
Concentration
Biological Science B.S.:
Environmental Biology,
Environmental Health-Applied
Toxicology, Molecular Biology,
Systems Physiology
Concentrations
Biological Science B.S.: Wildlife
Ecology Concentration
Business Administration
Chemical Engineering B.S.
Chemistry B.A.
Chemistry B.S.
Chemistry B.S.: Concentration in
Analytical Chemistry, Nuclear
and Radiochemistry
Chemistry B.S.: Concentration in
Biochemistry
Civil Engineering B.S.
Computer Engineering B.S.
Computer Science B.S.
Economics B.A.
Electrical Engineering B.S.
English B.A.
Environmental Studies
B.A.:Concentration in
Environmental Technology or
Management
Environmental Studies
B.A.:Concentration in Natural
Sciences
Environmental Studies
B.A.:Concentration in Social
Sciences or Humanities
French B.A.
General Engineering B.S.
Geography B.A.
Geology B.A.
Geology B.A.:Concentration in
Oceanography
Geology B.S.
Geology B.S.:Concentration in
Geophysics, Oceanography
Health Science B.S.
History B.A.
Hospitality Management B.S.
Industrial Arts B.A.: Design and
Technical Drawing (or
Manufacturing)

Technology Concentration
Industrial Arts B.A.: Electronics
and Computer Technology
Concentration
Industrial Technology B.S.:
Design and Technical Drawing
Technology Concentration
Industrial Technology B.S.:
Electronics and Computer
Technology Concentration
Industrial and Systems
Engineering B.S.
Journalism B.S.: Concentration in
Magazine Journalism
Journalism B.S.: Concentration in
Photojournalism
Journalism B.S.: Concentration in
Radio-Television Journalism
Journalism B.S.: Concentration in
Reporting and Editing
Liberal Studies B.A.
Linguistics B.A.
Materials Engineering B.S.
Mathematics B.A.
Mechanical Engineering B.S.
Meteorology B.S.
Music B.A.
Natural Science B.A.: Nature
Interpretation Concentration
Nursing B.S.
Nutritional Science B.S.
Nutritional Science B.S.: Dietetics
Concentration
Nutritional Science B.S.: Food
Science and Technology
Concentration
Occupational Therapy B.S.
Philosophy B.A.: Cognition
Concentration
Physical Science
Physics B.A.
Physics B.S.
Political Science B.A.
Political Science B.A.: Public
Administration Concentration
Political Science B.A.: Public
Policy Concentration
Psychology B.A.
Public Relations B.S.
Radio and Television B.A.
Social Science B.A.
Social Work B.A.
Sociology B.A.
Spanish B.A.
Theatre Arts B.A.

**California Polytechnic State
University, San Luis Obispo**

Aeronautical Engineering B.S.
Agricultural Business B.S.
Agricultural Engineering B.S.
Agricultural Engineering
Technology B.S.
Agricultural Science B.S.
Animal Science B.S.
Architectural Engineering B.S.
Architecture B.A.R.
Art B.A.
Biochemistry B.S.
Biological Science B.S.
Business Administration B.S.

Chemistry B.S.
 City and Regional Planning B.S.
 Civil Engineering B.S.
 Computer Engineering
 Computer Science
 Construction Management B.S.
 Crop Science B.S.
 Dairy Science B.S.
 Ecology & Systematic Biology
 B.S.
 Economics B.S.
 Electrical Engineering B.S.
 Engineering Science B.S.
 English B.A.
 Environmental Engineering B.S.
 Food Science B.S.
 Forestry & Natural Resources
 B.S.
 Fruit Science B.S.
 Graphic Communication B.S.
 History B.A.
 Human Development B.S.
 Industrial Engineering B.S.
 Industrial Technology B.S.
 Journalism B.S.
 Landscape Architecture B.L.A.
 Liberal Studies B.A.
 Material Engineering B.S.
 Mathematics B.S.
 Mechanical Engineering B.S.
 Microbiology B.S.
 Music B.A.
 Nutritional Science B.S.
 Ornamental Horticulture B.S.
 Physical Education B.S.
 Physical Science B.S.
 Physics B.S.
 Political Science B.A.
 Poultry Industry B.S.
 Recreation Administration B.S.
 Social Science B.S.
 Soil Science B.S.
 Speech Communication B.A.
 Statistics B.S.

Sonoma State University
 Business Administration

**California State University,
 Stanislaus**
 Business Administration

Major Preparation Recommendations

Following are CSM's current major preparation recommendations listed by subject area:

APPLIED HEALTH - CHIROPRACTIC, DIETETICS, HEALTH SCIENCE, NURSING, NUTRITION, OCCUPATIONAL THERAPY, PHARMACOLOGY, PHYSICAL EDUCATION, PRE-PHYSICAL THERAPY, VETERINARY MEDICINE

University of California, Berkeley

Nutritional Sciences

At least 11 semester units from the following: BIOL 210, 220, 230, 250, 260; and/or CA&S 310
 CHEM 210 or 224 and CHEM 231, 232, 250
 ENGL 100 and ENGL 110 or 120 or 130 or 140
 MATH 200, 241
 Students may take PHYS 250 and 260 in order to satisfy physics requirement
 ACTG 121, 131 (Clinical Dietetics only)
 CIS 240/241 (Clinical Dietetics only)
 ECON 100, 102 (Clinical Dietetics only)
 PSYC 100 or SOCI 100 (Clinical Dietetics only)
 PSYC 100 or SOCI 100 (Clinical Dietetics only)

At least 14 semester units from the following UC transferable course subjects: history, philosophy, economics, foreign languages, art, music, and/or political science. (Food Science only)
 CHEM 220 or 225 (recommended)

Physical Education

ANTH 110
 BIOL 260
 CHEM 210 or 224
 HIST 100 or 101 and HIST 201 or 202
 MATH 200, 241
 PHYS 210 or 250
 PSYC 100
 SOCI 100

BIOL 250 (recommended)

University of California, Davis

Community Nutrition B.S.

ANTH 110 or SOCI 105
 BIOL 110, 210, 220, 230
 CHEM 210, 220 or CHEM 224, 225
 ECON 123 or MATH 200 or PSYC 121
 ECON 100, 102 (Economics & International Development option)
 MATH 241 or MATH 251 (Economics & International Development option)
 PSYC 100 (Behavioral-Psychological option)

Dietetics B.S.

ANTH 110 or SOCI 100 or 105
 BIOL 110, 210, 230
 CHEM 210, 220 or CHEM 224, 225
 ECON 100, 102
 ECON 123 or MATH 200
 PSYC 100

Food Science B.S.

BIOL 110, 230
 CHEM 210, 220 or CHEM 224, 225
 MATH 241 or 251
 BIOL 110, 210, 220, ECON 102 (Food Business & Management option)
 BIOL 110, 210, 220, CHEM 231, 232, PHYS 210, 220 (Food/Microbiology option)
 BIOL 110, 210, 220 (Consumer Food Science option)
 CHEM 231, 232, MATH 242 or 252, PHYS 210, 220 (Food Chemistry option)
 BIOL 110, 210, 220 and PHYS 210, 220 (Food Technology option)

Nutrition Science B.S.

BIOL 110, 210, 220, 230
 CHEM 210, 220 or CHEM 224, 225
 CHEM 231, 232
 CIS 250/251
 ECON 123 or MATH 200
 MATH 241 or 251
 BIOL 240 (recommended)

Physical Education A.B.

BIOL 110, 230
 CHEM 210, 220 or CHEM 224, 225
 ECON 123 or MATH 200
 PSYC 100
 BIOL 110, 210 (Biological Emphasis)
 PSYC 121 (Psychological Emphasis)

Physical Education B.S.

BIOL 110, 125, 230
 CHEM 210, 220 or CHEM 224, 225

CIS 240/241 or 250/251
 ECON 123 or MATH 200
 MATH 241, 242 or 251, 252
 PHYS 210, 220 or PHYS 250, 270
 PSYC 100
 BIOL 210 and PHYS 220 or 260 (Biomechanics Emphasis)
 CHEM 231, 232 (Exercise Physiology Emphasis)
Veterinary Medicine
 BIOL 110, 210
 CHEM 210, 220, 231
 PHYS 210

University of California, Santa Barbara

Pharmacology B.A. & B.S.

BIOL 210, 220, 230
 CHEM 210, 220
 MATH 200
 MATH 241, 242 or MATH 251, 252, 253
 PHYS 210, 220
 CHEM 231, 232 (will satisfy Organic Chemistry requirement only by petition at UCSB)

St. Mary's College of California

Health Science

BIOL 210, 220 and 250
 CHEM 210, 220
 MATH 241, 242
 PHYS 210, 220
 PSYC 100
 BIOL 240, 260 (recommended)
 MATH 200 (recommended)
 PSYC 201 (recommended)
 SOCI 100 (recommended)

Health, Physical Education & Recreation

PSYC 100
 Three different activities courses:
 Any transferable PE or DANC courses (both Recreation and Sports Management emphases)
 ACTG 121 (Sports Management emphasis)
 BUS 201 (Sports Management emphasis)
 ECON 100 (Sports Management emphasis)
 BIOL 110, 250 and 260 (Teaching emphasis)
 HSCI 100 (Teaching emphasis)
 Aquatics activities course: PE 105 or 109 or 120 or 127 (Teaching emphasis)
 Dance activities course: DANC courses numbered 121 through 412 (Teaching emphasis)

Nursing

ANTH 110 or SOCI 100 or 105 or 200
 BIOL 240, 250 and 260 (BIOL 265, 266 may be substituted for BIOL 250, 260)
 CA&S 310

CHEM 192
ECON 123 or MATH 200 or
PSYC 121
ENGL 100 and ENGL 110 or 120
or 130 or 140 or 161 or 165
PSYC 100, 201
SPCH 100 or 111 and SPCH 120

University of the Pacific

Pre-Pharmacy

BIOL 210, 220
CHEM 210, 220, 231 and 232
ECON 100 or 102
ENGL 100
MATH 241 or 251
PHYS 210 or 250
SPCH 100 or 120

University of San Francisco

Nursing

BIOL 240 or 250 or 260
CIS 110
ECON 123 or MATH 200 or
PSYC 121
ENGL 100
PHIL 100, 300
One of the following: ANTH 130;
HIST 100 or 101
Two of the following: BUS 100;
HIST 102, 201, 202, 230; LIT
201, 202 and/or PLSC 200,
205, 210, 215
One of the following: ART 101,
102, 103, 108, 111 or MUS 202
One of the following: ENGL 110;
LIT 101, 111, 113, 151, 231,
302 or 430

Cleveland Chiropractic College of Los Angeles

Chiropractic

BIOL 110, 210, 240, 250 and 260
CHEM 210, 220, 231 and 232
PHYS 210, 220

Los Angeles College of Chiropractic

Chiropractic

BIOL 110 and BIOL 250 or 260
CHEM 210, 220, 231 and 232
ENGL 100 and ENGL 165 or
SPCH 100
PHYS 210, 220
PSYC 100

Palmer College of Chiropractic West

Pre-Chiropractic

Two or more of the following:
BIOL 110, 210, 230, 240, 250,
260, 265 and 266
CHEM 210, 220, 231 and 232
PHYS 210, 220
6 semester units in English/
Speech Communications
required; at least one semester of
English composition is required
15 semester units in Humanities/
Social Science required.

Students may choose from
courses in ANTH, ART, ECON,
HIST, MUS, PHIL, PLSC, and/
or SOCI

3 semester units in Psychology
required

Southern California College of Chiropractic

Chiropractic

BIOL 110 and BIOL 250 or 260
CHEM 210, 220, 231 and 232
ENGL 100 and ENGL 165 or
SPCH 100
PHYS 210, 220
PSYC 100
Social Science or Humanities
course

California State University, Chico

Dietetics and Food Administration B.S.

ACTG 121
BIOL 240, 260
CHEM 231
ECON 102

Health Science B.S. (Applied Health Option)

BIOL 110, 240, 250, 260
CHEM 231
HSCI 103, 109
MATH 200

Health Science B.S. (Community Health Education Option)

BIOL 250, 260
HSCI 103, 109

Health Science B.S. (Gerontology Option)

BIOL 260

Health Science B.S. (Health Services Administration Option)

ACTG 121, 131
ECON 102
MATH 200

Health Science B.S. (School Health Option)

BIOL 110, 240, 250, 260
CA&S 310
HSCI 103, 109

Nursing B.S.

ANTH 110
BIOL 240, 250, 260
CHEM 231
ENGL 100 or 105
PSYC 100, 201
SOCI 100

Physical Education B.A.

BIOL 250, 260
CHEM 231
PHYS 210

California State University, Fresno

Pre-Physical Therapy

BIOL 130, 250 and 260
CHEM 210 or CHEM 410, 420
MATH 200
PHYS 210, 220
PSYC 100

California State University, Hayward

Health Science

ANTH 110
BIOL 110, 265 and 266
MATH 200
PSYC 100
SOCI 100

California State University, Long Beach

Pre-Physical Therapy

BIOL 110, 250 and 260
CHEM 210
MATH 200
PHYS 210, 220
PSYC 100, 410

California State University, Sacramento

Nursing

ANTH 110 or SOCI 100
BIOL 240, 250
BIOL 260 or BIOL 265, 266
CA&S 310
CHEM 410, 420
ENGL 100
NURS 211, 212
PSYC 201 and PSYC 100 or 300

San Francisco State University

Dietetics

BIOL 240
CA&S 310
CHEM 210, 220, 231
MATH 200
ENGL 110 or 120 or 130 or 140
or 165
PSYC 100 or SOCI 100

Health Science

BIOL 130, 240
CHEM 100
PSYC 100
Nursing (R.N. and Non-R.N.)
BIOL 240
BIOL 250, 260 or BIOL 265, 266
CA&S 310
CHEM 192 or CHEM 410
ENGL 100 or ENGL 105
NURS 211, 212, 222 and 231
PSYC 100

MATH 200 (required for graduate
program only)

SPCH 100 or SPCH 120 or
SPCH 150 (required for
graduate program only)

Physical Education

BIOL 130 or 210

BIOL 240

Pre-Physical Therapy

BIOL 240, 250 and 260
CHEM 210, 220, and 231
CIS 110
MATH 200
PHYS 210, 220
PSYC 201, 410

San Jose State University

Health Science B.S.

ANTH 110
BUS 295
CIS 250/251

Nursing B.S.

ANTH 110 or SOCI 100
BIOL 240, 250, 260
CA&S 310
CHEM 410, 420
ENGL 100 or 105
MATH 200
PSYC 110
SPCH 100

Nutritional Science B.S.

BUS 295
CA&S 310
ECON 123 or MATH 200
PSYC 100

Nutritional Science B.S.: Dietetics Concentration

BIOL 240, 260
BUS 295
CA&S 310
CHEM 210, 231
ECON 123 or MATH 200
PSYC 100

Nutritional Science B.S.: Food Science and Technology Concentration

BIOL 240
BUS 295
CHEM 210, 220, 231
ECON 123 or MATH 200
PHYS 210

Occupational Therapy B.S.

ANTH 110
BIOL 266
PSYC 100

California Polytechnic State University, San Luis Obispo Food Science B.S.

CA&S 310
CHEM 210, 220, 231
MATH 200

Nutritional Science B.S.

ANTH 110
BIOL 230, 265, 266
CHEM 210, 220, 231
CA&S 310
SOCI 100

Physical Education B.S.

BIOL 250, 260
CA&S 310
MATH 200, 222
HSCI 100
PSYC 100

**ARCHITECTURE/
LANDSCAPE
ARCHITECTURE**

**University of California,
Berkeley**

Architecture

ARCH 120, 130, 140, 145, 210
and 220
ENGL 100 and ENGL 110 or 120
or 130 or 140
MATH 241, 242
PHYS 250

One Natural Science course from
the following: ASTR 100; BIOL
110, 125, 130, 150, 160, 184,
200, 210, 220, 230, 260, 265,
266; GEOG 100; GEOL 100,
210; or PALN 100

Two Social Science courses from
the following: ANTH 110;
ECON 100,102; ETHN 101,
102, 150, 151, 152, 160, 261,
262, 288, 290, 350, 351, 425,
430, 585; GEOG 110; HIST
100, 101, 102, 110, 201, 202,
242, 260, 270, 310, 350, 360;
PLSC 100, 110, 130, 150, 170,
200, 210, 212, 215, 220, 250,
255, 280, 310, 520; PSYC 100,
105, 110, 121, 201, 300, 410,
675; SOCI 100, 105, 110, 141,
200, 300, 340; SOSOC 111, 220
and/or 221

Two Humanities courses from the
following: ART 101, 102, 103;
Any transferable Foreign
language; History; Humanities;
Literature; and/or Philosophy
courses

Landscape Architecture

ARCH 120, 130, 140, 145, 210
and 220
BIOL 220
ENGL 100 and ENGL 110 or 120
or 130 or 140
GEOL 100, 101

One Physical Science course from
the following: CHEM 100, 192,
210, 220, 224, 225, 231, 232,
250; CIS 110, 115, 116, 240,
241, 250, 251, 270, 271, 272,
273, 290, 291, 370, 371;
MATH 125, 200, 222, 231,
241, 242, 251, 252, 253, 268,
270, 275; PHYS 100, 210, 220,
250, 260, or 270.

One Natural Science course from
the following: ASTR 100; BIOL
110, 125, 130, 150, 160, 184,
200, 210, 220, 230, 260, 265,
266; GEOG 100; GEOL 100,
210; or PALN 110

Two Humanities and/or Art
courses from the following: Any
transferable Art; Film; Foreign
language; History; Humanities;
Literature; Music and/or
Philosophy courses

Two Social Science courses from
the following: ANTH 110;
ECON 100, 102; ETHN 101,
102, 150, 151, 152, 160, 261,
262, 288, 290, 350, 351, 425,
430, 585; GEOG 110; HIST
110, 101, 102, 110, 201, 202,
242, 260, 270, 310, 350, 360;
PLSC 100, 110, 130, 150, 170,
200, 210, 212, 215, 220, 250,
255, 280, 310, 520; PSYC 100,
105, 110, 121, 201, 300, 410,
675; SOCI 100, 105, 110, 141,
200, 300, 340; and/or SOSOC
111, 220, 221

University of California, Davis

Landscape Architecture B.S.

ART 405
BIOL 100 or 230
BIOL 110, 220
CIS 240/241 or CIS 250/251 or
CIS 272/273
CHEM 100 or 210 or 224
ECON 100 or 102
ECON 123 or MATH 200
ENGR 210
GEOL 100
MATH 241 or 251
PHYS 100 or 210

One of the following: ANTH 110,
PSYC 100, SOCI 100

**California College of Arts and
Crafts**

Architecture

ANTH 110
ARCH 100 or ART 105 or 106 or
108
ART 101, 102, 103
ENGL 100, 110
HIST 100, 101
MATH 241 or 251
PHYS 210 or 250

One Additional course from
Anthropology, Geography,
History, Philosophy, Political
Science, Psychology, or
Sociology

**California Polytechnic State
University, San Luis Obispo**

Architecture B.A.R.

ARCH 100, 130, 140, 150, 160,
210, 220, 230 and 240
CIS 240/241
MATH 251, 252
PHYS 250, 270

Landscape Architecture B.L.A.

ARCH 100
BIOL 220 or HORT 320
ENGR 111
MATH 200, 222

**ARTS - ART, ART
HISTORY, DANCE,
DESIGN, FILM, MUSIC,
THEATER**

**University of California,
Berkeley**

Art

ART 101, 102, 103, 201, 206 and
405

University of California, Davis

Art History A.B.

ART 101, 102, 103 and 405
ART 201 or 202 or 207

Art Studio A.B.

Two courses from the following:
ART 101, 102 and/or 103
Three courses from the following:
ART 201, 202, 207 and/or 405

Design B.S.

ART 301
One course from the following:
ART 101, 102, 103
Two courses from the following:
ANTH 110; GEOL 100; PSYC
100; SOCI 100; SPCH 100, 120

Music A.B.

MUS 100

**University of California, Santa
Cruz**

Art History

ART 101 or 102 or 103 or 106
ART 105
Two courses are required, selected
from two of the following areas:
Photography: ART 351, 352, 353
Sculpture: ART 405, 406
Figure Drawing: ART 206, 207

**St. Mary's College of
California**

Art

ART 101, 102, 103, 106, 108,
201, 223 and 405

**California State University,
Chico**

Art B.A. and B.F.A.

ART 101, 102, 103, 201, 202,
206, 207, 301, 305, 405 and
411
ART 223 or 231
ART 237 or 241

Music B.A.

ELEC 200
MUS 131, 132, 133, 134 and 303

**California State University,
Hayward**

Art

ART 101, 201, 214, 223, 237 and
301
ART 405 or 411

Music

MUS 101, 102, 103, 104, 131,
132, 133 and 134
Nine units of the following: MUS
402, 403 and MUS courses
numbered 302 through 372

**California State University,
Sacramento**

Art

ART 101, 102, 201
ART 223 or 231
Two courses of the following:
ART 411, 412 and/or 405
Two courses of the following:
ART 214, 237 and/or 238

Music

MUS
101,102,103,104,131,132,133,134
and 304
MUS 402 or 403

San Francisco State University

Art

ART 101, 102, 103, 105, 207,
237, 351, 405 and 411

*Dance: Concentration in
Ethnology*

ANTH 110
DANC 130 or DANC 141 or
DANC 148
DANC 121, 411, 412

*Dance: Concentration in
Performance/Choreography*

DANC 130 or 141 or 148
DANC 121, 143, 411, 412

Film

FILM 451, 452

Music

MUS 101, 102, 103, 131, 132,
133, 301, 302 and 303

San Jose State University

*Art: Art History and General
Design Studies Concentrations*

ART 101, 102, 103, 201, 202,
214
ART 301 or ART 305 or TA&G
210

ARCH 140 or TA&G 201
(General Design Studies
Concentration only)

*Art: General Studio Practice
Concentration, Art Education
Emphasis*

ARCH 140 or TA&G 201
ART 101, 102, 103, 201, 202,
305, 411 and 412
ART 301 or TA&G 210

*Art: General Studio Practice
Concentration, Ceramics,
Crafts, Painting and Drawing,
Printmaking, Sculpture
Emphases*

ARCH 140 or ART 202 or TA&G
201

ART 101,102,103 and 201
ART 301 or TA&G 210
ART 305 or ART 411/412

Art: General Studio Practice Concentration, Photography Emphasis

ART 101,102,103 and 351
Three of the following courses:
ARCH 140 or TA&G 201, ART 201, ART 202, ART 301 or TA&G 210, and/or ART 305 or ART 411,412

Music B.A.

MUS 101, 102, 103, 104, 131, 132, 133 and 134

Theatre Arts B.A.
SPCH 130

California Polytechnic State University, San Luis Obispo

Art B.A.

ART 101, 102, 201, 214 and 301
BUS 100 or 180

Music B.A.

MUS 101, 102, 103, 132, 133, 134 and 275

BUSINESS/ECONOMICS - ACCOUNTING, BUSINESS ADMINISTRATION, ECONOMICS, HOSPITALITY MANAGEMENT, MARKETING, RECREATION ADMINISTRATION

University of California, Berkeley

Business Administration

ACTG 121, 131
CIS 240/241 or CIS 250/251
ECON 100, 102
ECON 123 or MATH 200
ENGL 100 and ENGL 110 or 120 or 130 or 140
MATH 241 or 251
MATH 242 or 252

(Recommended if grade C or below in MATH 241 or 251)
Foreign Language Requirement: 3 years of one language in high school (grade C or better) or 2 semesters of one language (Chinese, French, German, Japanese or Spanish) at CSM (5 unit course, grade C or better)
One additional English course beyond Reading and Composition: ENGL 165: LIT 101, 105, 113, 143, 151, 201, 202, 231, 232, 251, 301, 302 or 430

Additional Degree requirements:
Seven or more of the courses listed below must be complete

before admission (The remaining courses must be completed before graduation)

Two courses from Behavioral Sciences: ANTH 105, 110, 180; PSYC 100, 105, 201, 300, 410; SOCI 100, 105, 141, 200, 300, and/or 340.

Two courses from Natural Sciences: ASTR 100/101; BIOL 100, 102, 110, 125, 130, 140, 145, 150, 160, 180, 184, 200, 200, 210, 230, 240, 250, 265, 266; CHEM 100, 210, 220; GEOG 100; GEOL 100/101; METE 100; OCEN 100/101; PALE 110; PHYS 100 and/or 220.

Two courses related to a foreign country: ANTH 370; ART 101, 102, 105; HIST 100, 110; and/or PLSC 520.

Three Social Science courses in addition to the Behavioral Science courses: ETHN 101, 102, 150, 152, 160, 261, 262, 290, 350, 351, 425, 430; GEOG 110; HIST 101, 102, 242, 260, 270, 310, 350, 360; PLSC 100, 110, 130, 150, 170, 200, 212, 215, 220, 250, 255, 260; and/or SOCI 110.

Economics

ECON 100, 102
MATH 241, 242 or MATH 251, 252

University of California, Davis

Economics A.B.

ECON 100, 102
ECON 123 or MATH 200
MATH 241, 242 or 251, 252 or 251, 252, 253
MATH 270

Textile Clothing B.S. (Marketing)

ACTG 121, 131
ANTH 110
CHEM 100
ECON 100, 102
ECON 123 or MATH 200 or PSYC 121
MATH 241 or 251
PHYS 100
PCYC 100
SOCI 300

Textile Clothing B.S. (Multidisciplinary)

ANTH 110
CHEM 210, 220 or CHEM 224, 225
ECON 100, 102
ECON 123 or MATH 200 or PSYC 121
PHYS 100
PSYC 100
SOCI 300

University of California, Los Angeles

Business Economics

ACTG 121, 131
ECON 100, 102
ECON 123 or MATH 200
MATH 251, 252

University of California, Riverside

Business Administration

ACTG 121, 131
CIS 250/251
ECON 100, 102
ENGL 100 and ENGL 130 or 165
MATH 200 and MATH 241 or 251

University of California, Santa Barbara

Business Economics/ Economics B.A.

ACTG 121, 131
ECON 100, 102
ECON 123 or MATH 200
MATH 251, 252

Economics/Mathematics B.A.

ECON 100, 102
MATH 251, 252, 253 and 275

University of California, Santa Cruz

Economics

ECON 100, 102
MATH 241, 242 or MATH 251, 252, 253
ACTG 121, 131 (recommended)

Business Economics

ACTG 121, 131
ECON 100, 102
MATH 241, 242 or MATH 251, 252, 253

Menlo College

Business Administration

ACTG 121, 131
BUS 100
ECON 100, 102
MATH 241
MATH 200 or ECON 123

College of Notre Dame

Business Administration

ACTG 121, 131
BUS 100
CIS 110
ECON 100, 102
ECON 123 or MATH 200

St. Mary's College of California

Accounting

ACTG 121, 131
BUS 201
ECON 100, 102
ECON 123 or MATH 200
MATH 125 or 241 or 251 or 270

CIS 110 or 115/116 or 250/251 (recommended)

Business Administration

ACTG 121, 131
BUS 201
ECON 100, 102
ECON 123 or MATH 200
MATH 125 or 241 or 251 or 270

Business Administration (Financial Services Management Emphasis)

ACTG 121, 131
CIS 110 or 115/116 or 250/251
ECON 123 or MATH 200
ECON 100, 102
MATH 125 or 241 or 251 or 270

Economics

ECON 100, 102
ECON 123 or MATH 200
ACTG 121, 131 (B.S. degree only)
MATH 241, 242 (B.S. degree only)
MATH 125 (B.A. degree only)
CIS 110 or 115/116 or 250/251 (recommended for both B.S. and B.A.)

Santa Clara University

Business Administration

ACTG 121, 131
ECON 100, 102
ENGL 100, 110
MATH 241, 242 or MATH 251, 252
CIS 110 or 115/116 (recommended)
ENGL 120 or 130 or 140 or 161 or 162 or 163 or 165 (recommended)
MATH 200 (recommended)
PHIL 244 (recommended)
Two courses from one of the following sequences in Western culture: ART 101, 102, 103; HIST 100, 101; or HUM 101, 102 (recommended)

University of Southern California

Business Administration

BUS 295
ECON 100, 102
ENGL 100 and ENGL 110 or 120 or 130 or 140 or 165
MATH 241, 242

University of San Francisco

Business Administration

ACTG 121, 131
BUS 100 and 295
ECON 100, 102
ECON 123 or MATH 200
MATH 125 and 241

New Mexico Institute Mining and Technology

Business Administration: Accounting Option (B.S.)

ACTG 100, 121 and 171
BUS 180, 201 and 340
ECON 100, 102
MGMT 220

Business Administration: Business Computer Option (B.S.)

ACTG 100 and 121
BUS 180, 201 and 340
ECON 100, 102
MGMT 220

Business Administration: Management Option (B.S.)

ACTG 100 and 121
BUS 180, 201 and 340
ECON 100, 102
MGMT 220

California State University, Chico

Business Administration B.S.

ACTG 121, 131
BUS 201
ECON 100, 102
MATH 125, 241

Economics B.A.

ECON 100, 102
ECON 123 or MATH 200
MATH 241

Pre-Business

ACTG 121, 131
BUS 201
ECON 100, 102
MATH 125 and 241

Recreation Administration B.S. (Therapeutic Recreation Option)

BIOL 250, 260
CIS 110

California State University, Hayward

Business Administration

ACTG 121
BUS 201, 295
ECON 100, 102
ECON 123 or MATH 200
MATH 241, 242
PSYC 100

BUSD 101, 201, and 401 or equivalent software proficiency
CIS 110 or CIS 115/116

(Business Computer Telecommunications and Computer Information Systems option only)

Economics

ECON 100, 102 and 123
MATH 241, 242

Humboldt State University

Business Administration

ACTG 121, 131
BUS 201
ECON 100, 102
ECON 123 or MATH 200
MATH 241

California State University, Long Beach

Business Administration

ACTG 121, 131
BUS 201, 295
ECON 100, 102
MATH 125, 241
PHIL 246

California State University, Los Angeles

Business Administration

ACTG 121, 131
BUS 201
BUS 295 or CIS 110
ECON 100, 102
ECON 123 or MATH 200
MATH 241

Business Education

ACTG 121, 131
BUS 201
BUS 295 or CIS 110
ECON 123 or MATH 200
ECON 100, 102

Economics

ACTG 121, 131
ECON 100, 102
ECON 123 or MATH 200
MATH 241

California State University, Northridge

Business Administration

ACTG 121, 131
BUS 201
BUS 295 (or computer literacy exam or equivalent)
ECON 100, 102
MATH 125 or MATH 241

California State Polytechnic University, Pomona

Business Administration

ACTG 121, 131
BUS 201, 295
ECON 100, 102 and 123
MATH 241

California State University, Sacramento

Business

ACTG 121, 131
BUSD 101, 401
BUSD 201 or 202
ECON 100, 102
ECON 123 or MATH 200
MATH 241

Economics

ECON 100, 102
ECON 123 or MATH 200

San Diego State University

Business Administration

ACTG 121, 131
ECON 100, 102
ECON 123 or MATH 200
MATH 241
BUS 295 (computer option only)
BUS 401 (all business majors except accounting)

San Francisco State University

Business Administration

ACTG 121, 131
BUS 295
or CIS 110 and BUSD 401
or CIS 110 and BUSM 411
or CIS 110 and BUSW 411
ECON 100, 102
ECON 123 or MATH 200
MATH 241
BUS 201 (for Accounting only)

Economics

ECON 100, 102

Home Economics

CA&S 210

Hospitality Management

ACTG 121, 131
BUS 201
BUS 295
or CIS 110 and BUSD 401
or CIS 110 and BUSM 411
or CIS 110 and BUSW 411
ECON 102
ECON 123 or MATH 200

San Jose State University

Business Administration

ACTG 121, 131
BUS 201, 295
ECON 100, 102
ECON 123 or MATH 200
MATH 125, 241

Economics B.A.

ECON 100, 102

Hospitality Management B.S.

ECON 100, 102
MATH 125

California Polytechnic State University, San Luis Obispo

Agricultural Business B.S.

CHEM 210, 220
ECON 100
MATH 200, 241

Business Administration B.S.

ACTG 121, 131
BUS 100
ECON 100, 102
ECON 123 or MATH 200
MATH 125, 241

Economics B.S.

ACTG 121, 131
ECON 100, 102
ECON 123 or MATH 200
MATH 125, 241

Recreation Administration B.S.

ANTH 110 or GEOG 110 or SOCI 100
BUS 100
ECON 100
PSYC 100

Sonoma State University

Business Administration

ACTG 121, 131
BUS 201
ECON 123 or MATH 200
MATH 241

California State University, Stanislaus

Business Administration

ACTG 121, 131
BUSD 101, 111
BUSD 401 or BUSM 411 or BUSW 411
ECON 100, 102
ECON 123 or MATH 200
MATH 125

COMMUNICATIONS - JOURNALISM, MASS COMMUNICATIONS, RADIO AND TELEVISION

University of California, Berkeley

Mass Communications

HIST 202
PLSC 200 or PLSC 210
ANTH 110 or ECON 100 or ECON 102 or PSYC 100 or SOCI 100

Menlo College

Communications

BUS 100
FILM 451 or 452
JOUR 110, 120

St. Mary's College of California

Communications

JOUR 110, 120
SPCH 111, 120
Two semesters of one foreign language

New Mexico Institute Mining and Technology

Technical Communication (B.S.)

HIST 100, 101, 201 and 202
SPCH 100
FREN 111, 112 or GERM 111,
112 or SPAN 111, 112

**California State University,
Chico**

*Information and
Communication Studies B.A.*
ART 351
BCST 110, 131 and 194
CIS 250/251, 252/253, 290/291
JOUR 120

**California State University,
Hayward**

Speech Communication
SPCH 100, 120, 130

**California State University,
Sacramento**

Communication Studies
SPCH 100
BCST 131 or 132 and BCST 231
or 232 (Media Communication-
Media Production
concentration)
FILM 461, 462 (Media
Communication-Media
Production concentration)
JOUR 120 (Media
Communication-Broadcast
News and Public Relation
concentration)
CIS 110 (recommended for
Telecommunication &
Information concentration)

Journalism
JOUR 110, 120

San Francisco State University

Journalism
JOUR 110, 120

Radio and Television
BCST 110, 131, 132, 231, 232

San Jose State University

Advertising B.S.
ECON 100
ECON 123 or MATH 200
JOUR 110
PSYC 100

*Journalism B.S.:
Concentration in Magazine
Journalism*
ECON 100
PSYC 100

*Journalism B.S.:
Concentration in
Photojournalism*
ART 351
ECON 100
PSYC 100

*Journalism B.S.:
Concentration in Radio-
Television Journalism*

BSCT 194
ECON 100
JOUR 110
PSYC 100

*Journalism B.S.:
Concentration in Reporting
and Editing*

ECON 100
JOUR 110, 120
PSYC 100

Radio and Television B.A.
BCST 110

**California Polytechnic State
University, San Luis Obispo**

Graphic Communication B.S.
CHEM 210, 220

Journalism B.S.
ART 351
BUS 100, 101
JOUR 120

Speech Communication B.A.
HIST 100, 101
SPCH 120

**COMPUTER SCIENCE -
COMPUTER
ENGINEERING,
COMPUTER
INFORMATION SYSTEMS**

**University of California,
Berkeley**

Computer Science A.B. & B.S.
CIS 290/291
ENGR 260
MATH 251, 252
CHEM 224 (B.S. only)
MATH 253 (B.S. only)
MATH 268 (A.B. only)
PHYS 250, 260, 270 (B.S. only)
CIS 270/271 (recommended for
both)

University of California, Davis

Computer Engineering B.S.
CHEM 210 or CHEM 224
CIS 250/251, 272/273
ENGL 100 or 110
ENGR 230, 260
MATH 251, 252, 253, 270, 275
PHYS 250, 260
CHEM 220 or 225
(recommended)
ENGR 270 (recommended)
PHYS 270 (recommended)
CIS 290/291 (required for
graduation)
SPCH 100 or 120 (required for
graduation)

Computer Science B.S.

CIS 250/251, 272/273
MATH 251, 252, 253, 270, 275
One series from the following:
1. CHEM 210, 220 or CHEM
224, 225
2. CHEM 210, 220 or CHEM
224, 225 and BIOL 110, 230
3. PHYS 250, 260, 270

**University of California, Santa
Cruz**

Computer Engineering
MATH 268

Menlo College

Computer Information Systems
BUS 100
CIS 250/251, 252/253
ECON 100, 102
MATH 200, 251, 252 and 268
CIS 270/271 (recommended)

Computer Science
CIS 250/251, 252/253 and 290/
291
MATH 200, 251, 252, 253, 268
and 270
CIS 270/271 (recommended)

**St. Mary's College of
California**

Computer Science
CIS 250/251, 350/351
MATH 251, 252, 253, 268 and
270
PHYS 250, 260, 270

**New Mexico Institute Mining
and Technology**

Computer Science (B.S.)
CIS 250

**California State University,
Chico**

Computer Engineering B.S.
CHEM 210 or 224
CIS 250/251, 252/253
MATH 251, 252, 253 and 275
PHYS 250, 260, 270

*Computer Information Systems
B.S.*
CIS 250/251, 252/253 and 290/
291
MATH 200 and 241

*Computer Science B.S.
(General Computer Science
Option)*
CIS 250/251, 252/253 and 290/
291
CIS 240/241 or 270/271
MATH 251, 252
PHYS 250, 260
ENGL 820 or MGNT 110
(recommended)
MATH 268 (recommended)

*Computer Science B.S. (Math/
Science Option)*

CHEM 210 or 224
CIS 250/251, 252/253 and 290/
291
CIS 240/241 or 270/271
MATH 251, 252, 253 and 275
PHYS 250, 260, 270

**California State University,
Hayward**

Computer Science
CIS 250/251, 252/253 and 290/
291
MATH 251, 252, 253, 268 and
270
CIS 270/271 (Recommended)

**California State University,
Los Angeles**

Computer Information Systems
ACTG 121, 131
BUS 201, 210
BUS 295 or CIS 110
ECON 100, 102
ECON 123 or MATH 200
MATH 241

**California State University,
Sacramento**

Computer Science B.S.
CIS 110, 250/251, 252/253 and
290/291
MATH 251, 252
PHYS 250, 260

San Francisco State University

Computer Science
CIS 250/251, CIS 312
ENGL 100
HIST 201
MATH 251, 252, 253 and 270
PHYS 250, 260

San Jose State University

Computer Science B.S.
CIS 240/241
MATH 251, 252, 253 and 270
PHYS 250, 260
MATH 275 (recommended)

**California Polytechnic State
University, San Luis Obispo**

Computer Science
CHEM 224
ENGL 100, 165
HIST 201, 202
MATH 251, 252, 253, 268 and
270
PHYS 250, 260, 270
PLSC 200
SPCH 100

CRIMINAL JUSTICE

**California State University,
Hayward**

*Criminal Justice
Administration*
ADMJ 100, 104, 106, 108 and
120

**California State University,
Sacramento**

Criminal Justice
ADMJ 100, 104 and 108
ADMJ 120 (Law Enforcement
Management and Investigation
concentration)

San Jose State University
Administration of Justice B.S.
ADMJ 100,104 and 106
ADMJ 102,120

ENGINEERING

**University of California,
Berkeley**

Chemical Engineering
CHEM 210 or 224 and CHEM
220 or 225 and CHEM 231
ENGR 260, 270
MATH 251, 252, 253, 270 and
275

PHYS 250, 260, 270
CHEM 232 (recommended)

Civil Engineering
CHEM 210 or 224
CIS 240/241
ENGR 210 and 230
MATH 251, 252, 253, 270 and
275

CHEM 220 or 225 (optional)
PHYS 250, 260
PHYS 270 (optional)

*Electrical Engineering and
Computer Science*
CHEM 210 or 224
CIS 290/291
ENGR 260, 270
MATH 251, 252, 253
PHYS 250, 260, 270

Engineering Science
BIOL 210, 220 and 230
CHEM 210, 220 or CHEM 224,
225
CIS 240/241
ENGL 100
ENGR 260, 270
MATH 251, 252, 253, 270 and
275
PHYS 250, 260, 270

Note: Computer Science (CIS
290/291) may replace
Chemistry (CHEM 220 or 225)
for students majoring in certain
Engineering Science options

*Industrial Engineering and
Operations Research*

CHEM 210 or 224
CIS 240/241
ENGL 100
ENGR 260 and 270
MATH 251, 252, 253, 270 and
275
PHYS 250, 260

Manufacturing Engineering

CHEM 210 or 224
CIS 240/241
ENGR 210, 230, 260 and 270
MATH 251, 252, 253, 270 and
275
PHYS 250 and 260

*Materials Science and Mineral
Engineering*

CHEM 210, 220 or CHEM 224,
225
CIS 240/241
GEOL 100, 101
ENGR 230, 270
MATH 251, 252, 253, 270 and
275
PHYS 250, 260, 270

Mechanical Engineering

CHEM 210 or 224
CIS 240/241
ENGR 210, 230, 270
MATH 251, 252, 253, 270 and
275
PHYS 250, 260, 270

*Naval Architecture and
Offshore Engineering*

CHEM 210 or 224
CIS 240/241
ENGR 210, 230 and 270
PHYS 250, 260, 270
MATH 251, 252, 253, 270 and
275

Nuclear Engineering

CHEM 210, 220 or CHEM 224,
225
CIS 240/241
ENGR 260, 270
MATH 251, 252, 253, 270 and
275
PHYS 250, 260, 270

Petroleum Engineering

CHEM 210, 220 or CHEM 224,
225
CIS 240/241
ENGR 230, 270
GEOL 100, 101
MATH 251, 252, 253, 270 and
275
PHYS 250, 260

University of California, Davis

*Aeronautical Science and
Engineering*

CHEM 210, 220 or CHEM 224,
225
CIS 240/241
ENGL 100 or 110
ENGR 230, 260

MATH 251, 252, 253, 270, 275
PHYS 250, 260
SPCH 100 or 120
ENGR 210, 270 (recommended)
PHYS 270 (recommended)

Agricultural Engineering B.S.

CHEM 210, 220 or CHEM 224,
225
CIS 240/241
ENGL 100
ENGR 230, 260
MATH 251, 252, 253 and 275
PHYS 250, 260
SPCH 100
BIOL 210, 220, 230, 240
(recommended)
ENGR 210, 270 and 666
(recommended)
PHYS 270 (recommended)

*Agricultural Engineering B.S.
(Aquacultural Engineering
option)*

CHEM 210, 220 or CHEM 224,
225
CIS 240/241
ENGL 100
ENGR 230, 260
MATH 251, 252, 253 and 275
PHYS 250, 260
SPCH 100
BIOL 210, 230 (recommended)
ENGR 210, 270 and 666
(recommended)
PHYS 270 (recommended)

*Agricultural Engineering B.S.
(Food Engineering option)*

CHEM 210, 220 or CHEM 224,
225
CIS 240/241
ENGR 230, 260
ENGL 100
MATH 251, 252, 253 and 275
PHYS 250, 260
SPCH 100
BIOL 230, 240 (recommended)
ENGR 210, 270 and 666
(recommended)
PHYS 270 (recommended)

*Agricultural Engineering B.S.
(Forest Engineering option)*

CHEM 210, 220 or CHEM 224,
225
CIS 240/241
ENGL 100
ENGR 111, 230, 260
MATH 251, 252, 253 and 275
PHYS 250, 260
SPCH 100
BIOL 220, 230 (recommended)
ENGR 210, 270 and 666
(recommended)
PHYS 270 (recommended)

*Biological Systems
Engineering B.S.*

CHEM 210, 220 or CHEM 224,
225
CIS 240/241
ENGL 100, 110

ENGR 230, 260
MATH 251, 252, 253, 270, 275
PHYS 250, 260
PHYS 270 (recommended)

*Chemical Engineering &
Chemical/Materials
Engineering B.S.*

CHEM 210, 220 or CHEM 224,
225
CIS 240/241
ENGL 100 or 110
ENGR 230, 260
MATH 251, 252, 253, 270, 275
PHYS 250, 260
PHYS 270 (recommended)

*Civil Engineering & Civil/
Materials Engineering B.S.*

CHEM 210, 220 or CHEM 224,
225
CIS 240/241
ENGL 100 or 110
ENGR 230, 260
MATH 251, 252, 253, 270, 275
PHYS 250, 260
ENGR 210, 270 (recommended)
PHYS 270 (recommended)

*Computer Science &
Engineering B.S.*

CHEM 210, 220 or CHEM 224,
225
CIS 250/251, 272/273
ENGL 100 or 110
ENGR 230, 260
MATH 251, 252, 253, 270, 275
PHYS 250, 260
ENGR 270 (recommended)
PHYS 270 (recommended)
CIS 290/291 (required for
graduation)
SPCH 100 or 120 (required for
graduation)

*Electrical Engineering &
Electrical/Materials
Engineering B.S.*

CHEM 210, 220 or CHEM 224,
225
CIS 250/251, 272/273
ENGL 100 or 110
ENGR 230, 260
MATH 251, 252, 253, 270, 275
PHYS 250, 260
ENGR 270 (recommended)
PHYS 270 (recommended)
CIS 290/291 (required for
graduation)
SPCH 100 or 120 (required for
graduation)

Food Engineering B.S.

CHEM 210, 220 or CHEM 224,
225
CIS 240/241
ENGL 100 or 110
ENGR 230, 260
MATH 251, 252, 253, 270, 275
PHYS 250, 260
PHYS 270 (recommended)

Materials Science & Engineering B.S.

CHEM 210, 220 or CHEM 224, 225
 CIS 240/241
 ENGL 100 or 110
 ENGR 230, 260, 270
 MATH 251, 252, 253, 270 and 275
 PHYS 250, 260
 ENGR 210 and 666 (recommended)
 PHYS 270 (recommended)
Mechanical Engineering & Mechanical/Materials B.S.
 CHEM 210, 220 or CHEM 224, 225
 CIS 240/241
 ENGL 100 or 110
 ENGR 230, 260
 MATH 251, 252, 253, 270, 275
 PHYS 250, 260
 ENGR 210, 270 (recommended)
 PHYS 270 (recommended)
 SPCH 100 or SPCH 120 (required for graduation)

St. Mary's College of California**Engineering**

CHEM 224, 225, 250
 MATH 251, 252, 253
 PHYS 250, 260, 270
 CHEM 231, 232 (for Chemical Engineering)
 CIS 250/251 (recommended)

Santa Clara University**Civil Engineering**

CHEM 210, 220 or CHEM 224, 225
 ENGL 100, 110
 MATH 251, 252
 PHYS 250
 CIS 240/241 (recommended)
 ENGR 210, 230 and 260 (recommended)
 MATH 253 and 275 (recommended)
 PHIL 244 (recommended)
 PHYS 260, 270 (recommended)
 Two courses from one of the following sequences in Western culture: ART 101, 102, 103; HIST 100, 101; HUM 101, 102 (recommended)
 Two courses in social science: ANTH 110, ECON 100, 102, PLSC 100, 110, 130, 150, PSYC 100, 201, 300, SOCI 100, 105 or SOCI 300 (recommended)

Computer Engineering

CHEM 210, 220 or CHEM 224, 225
 ENGL 100, 110
 MATH 251, 252
 PHYS 250
 CIS 240/241 (recommended)

ENGR 210, 230 and 260 (recommended)

MATH 253 and 275 (recommended)

PHIL 244 (recommended)

PHYS 260, 270 (recommended)

Two courses from one of the following sequences in Western culture: ART 101, 102, 103; HIST 100, 101; or HUM 101, 102 (recommended)

Two courses in social science: ANTH 110, ECON 100, 102, PLSC 100, 110, 130, 150, PSYC 100, 201, 300, SOCI 100, 105 or SOCI 300 (recommended)

Electrical Engineering

CHEM 210, 220 or CHEM 224, 225

ENGL 100, 110

MATH 251, 252

PHYS 250

ENGR 210, 230 and 260 (recommended)

CIS 240/241 (recommended)

MATH 253 and 275 (recommended)

PHIL 244 (recommended)

PHYS 260, 270 (recommended)

Two courses from one of the following sequences in Western culture: ART 101, 102, 103; HIST 100, 101; or HUM 101, 102 (recommended)

Two courses in social science: ANTH 110, ECON 100, 102, PLSC 100, 110, 130, 150, PSYC 100, 201, 300, SOCI 100, 105 or SOCI 300 (recommended)

Mechanical Engineering

CHEM 210, 220 or CHEM 224, 225

ENGL 100, 110

MATH 251, 252

PHYS 250

CIS 240/241 (recommended)

ENGR 210, 230 and 260 (recommended)

MATH 253 and 275 (recommended)

PHIL 244 (recommended)

PHYS 260, 270 (recommended)

Two courses from one of the following sequences in Western culture: ART 101, 102, 103; HIST 100, 101; or HUM 101, 102 (recommended)

Two courses in social science: ANTH 110, ECON 100, 102, PLSC 100, 110, 130, 150, PSYC 100, 201, 300, SOCI 100, 105 or 300 (recommended)

University of the Pacific**Civil Engineering**

CHEM 224
 CIS 240/241

ENGR 111, 210, 230, 260, 270 and 666

MATH 251, 252, 253 and 275

PHYS 250, 260, 270

Computer Engineering

CHEM 224

CIS 240/241

ENGR 111, 210, 230, 260, 270 and 666

MATH 251, 252, 253 and 275

PHYS 250, 260, 270

Electrical Engineering

CHEM 224

CIS 240/241

ENGR 111, 210, 230, 260, 270 and 666

MATH 251, 252, 253 and 275

PHYS 250, 260, 270

Engineering Physics

CHEM 224

CIS 240/241

ENGR 111, 210, 230, 260, 270 and 666

MATH 251, 252, 253 and 275

PHYS 250, 260, 270

Management Engineering

CHEM 224

CIS 240/241

ENGR 111, 210, 230, 260, 270 and 666

MATH 251, 252, 253 and 275

PHYS 250, 260, 270

Mechanical Engineering

CHEM 224

CIS 240/241

ENGR 111, 210, 230, 260, 270 and 666

MATH 251, 252, 253 and 275

PHYS 250, 260, 270

New Mexico Institute Mining and Technology**Electrical Engineering (B.S.)**

MATH 253, 270 and 275

Engineering Mechanics (B.S.)

CIS 240 or 250

DRAF 120 and 201

ENGR 230 and 270

MATH 253 and 275

Engineering Science (B.S.)

CIS 240 or 250

DRAF 120 and 201

ENGR 230 and 270

MATH 253, 270 and 275

Engineering Science: Electronics Option (B.S.)

CIS 240 or 250

DRAF 120 and 201

ENGR 230 and 270

MATH 253, 270 and 275

Environmental Engineering (B.S.)

BIOL 110 and 230

CHEM 250

CIS 240

DRAF 120

ENGR 230 and 270
 MATH 200, 253 and 270

Materials Engineering (B.S.)

DRAF 120 and 201

ENGR 230 and 270

MATH 253 and 270

Materials Engineering: Metallurgical Engineering Option (B.S.)

CIS 240

DRAF 120 and 201

ENGR 230 and 270

MATH 253 and 275

Mineral Engineering: Emphasis in Geological Engineering (B.S.)

CIS 240

DRAF 120 and 201

ENGR 230 and 270

MATH 253 and 275

Mineral Engineering: Emphasis in Mining Engineering (B.S.)

CIS 240

DRAF 120

ENGR 230 and 270

GEOL 210, 220

MATH 200, 253 and 275

Petroleum Engineering (B.S.)

CIS 240

DRAF 120

ENGR 230 and 270

MATH 200, 253 and 275

California State University, Chico**Civil Engineering B.S.**

BIOL 110

CHEM 210 or 224

ENGR 111, 210

MATH 251, 252, 253, 275

PHYS 250, 260

Electrical Engineering B.S.

BIOL 110

CHEM 210 or 224

ENGR 210

MATH 251, 252, 253

PHYS 250, 260, 270

Electronic Engineering B.S.

BIOL 110

CHEM 210 or 224

ENGR 210

MATH 251, 252, 253

PHYS 250, 260, 270

Mechanical Engineering B.S.

BIOL 110

CHEM 210 or 224

ENGR 210

MATH 251, 252, 253

PHYS 250, 260, 270

California State University, Sacramento**Computer Engineering**

CHEM 210

CIS 250/251, 252/253, 270/271 and 290/291
ENGR 210, 260
MATH 251, 252 and 275
PHYS 250, 260

Engineering
CHEM 210
CIS 240/241
ENGR 210, 230, 260 and 270
MATH 251, 252, 253 and 275
PHYS 250, 260, 270
ENGR 111 (Civil Engineering only)

San Francisco State University

Engineering: Civil, Electrical and Mechanical Engineering
CHEM 210, 220
ENGL 100
ENGL 110 or 120 or 130 or 140 or 165
ENGR 210, 230, 260, 270
MATH 251, 252, 253, 270, 275
PHYS 250, 260, 270

San Jose State University

Aerospace Engineering B.S.
CHEM 224
CIS 240/241
DRAF 120
ENGR 210, 230, 260 and 270
MATH 251, 252, 253
PHYS 250, 260, 270
MATH 275 (recommended)

Chemical Engineering B.S.
CHEM 224, 225
CIS 240/241
ENGR 230, 260, 270
MATH 251, 252, 253
PHYS 250, 260, 270
MATH 275 (recommended)

Civil Engineering B.S.
CHEM 224
CIS 240/241
DRAF 120
ENGR 111, 210, 230, 260 and 270
MATH 251, 252, 253
PHYS 250, 260, 270
MATH 275 (recommended)

Computer Engineering B.S.
CHEM 224
CIS 250/251
ENGR 210, 230, 260 and 270
MATH 251, 252, 253
PHYS 250, 260, 270

Electrical Engineering B.S.
CHEM 224
CIS 240/241
ENGR 210, 260, 270
MATH 251, 252, 253
PHYS 250, 260, 270
MATH 275 (recommended)

General Engineering B.S.
CHEM 224
CIS 240/241
ENGR 210, 260, 270

MATH 251, 252, 253
PHYS 250, 260, 270
MATH 275 (recommended)

Industrial and Systems Engineering B.S.

CHEM 224
CIS 240/241
ENGR 210, 260, 270
MATH 251, 252, 253
PHYS 250, 260, 270
MATH 275 (recommended)

Materials Engineering B.S.

CHEM 210, 220
CIS 240/241
ENGR 210, 260, 270
MATH 251, 252, 253
PHYS 250, 260, 270

Mechanical Engineering B.S.

CHEM 224
CIS 240/241
DRAF 120
MATH 251, 252, 253
ENGR 210, 230, 260 and 270
PHYS 250, 260, 270
MATH 275 (recommended)

California Polytechnic State University, San Luis Obispo

Aeronautical Engineering B.S.

CHEM 224
CIS 240/241
ENGR 230, 260, 270
MATH 251, 252, 253 and 275
PHYS 250, 260, 270
WELD 110, 111

Agricultural Engineering B.S.

ARCH 112 or ENGR 111
CHEM 224, 225
CIS 240/241
DRAF 100, 120
ENGR 230, 260
MATH 251, 252, 253 and 275
PHYS 250, 260, 270
WELD 110, 111

Architectural Engineering B.S.

ARCH 100, 130, 140, 150, 160, 220, 230 and 240
CHEM 224
CIS 240/241
ENGR 260
GEOL 100
MATH 200, 251, 252, 253 and 275
PHYS 250, 260, 270

Civil Engineering B.S.

CHEM 224, 225
CIS 240/241, 270/271
ENGR 111, 230, 260 and 270
GEOL 100
PHYS 250, 260, 270

Computer Engineering

CHEM 224
ENGL 100, 165
ENGR 230, 260
MATH 251, 252, 253, 268 and 275
PHYS 250, 260, 270

PLSC 200
SPCH 100

Electrical Engineering B.S.

CHEM 224, 225
CIS 270/271
ENGR 230, 260, 270
MATH 251, 252, 253, 275
PHYS 250, 260, 270

Engineering Science B.S.

CHEM 210, 220 or CHEM 224, 225
CIS 250/251
CIS 240/241 or CIS 270/271
ENGR 230, 260, 270
MATH 251, 252, 253 and 275
PHYS 250, 260, 270

Environmental Engineering B.S.

CHEM 210, 220 or CHEM 224, 225
CHEM 231
CIS 240/241
MATH 251, 252, 253 and 275
ENGR 230, 260
PHYS 250, 260, 270

Industrial Engineering B.S.

CHEM 210, 220
CIS 270/271
DRAF 100, 120
ENGR 230, 260, 270 and 666
MATH 251, 252, 253
PHYS 250, 260, 270

Material Engineering B.S.

CHEM 210, 220
CIS 240/241, 250/251, 270/271
ENGR 230, 260, 270
DRAF 100 or 120
MATH 251, 252, 253 and 275
PHYS 250, 260, 270
WELD 110, 111

Mechanical Engineering B.S.

CHEM 224, 225
CIS 240/241
DRAF 100, 120
ENGR 230, 260, 270
MATH 251, 252, 253, 275
PHYS 250, 260, 270
WELD 100, 111

ENVIRONMENTAL STUDIES/NATURAL RESOURCES - AGRICULTURE, CONSERVATION, FISHERIES, FORESTRY, HORTICULTURE, OCEANOGRAPHY, RESOURCE MANAGEMENT, SOIL AND WATER SCIENCE

University of California, Berkeley

Bioresource Sciences
BIOL 210, 220

CA&S B10
CHEM 210 or 224 and CHEM 220 or 225 and CHEM 231, 232
CIS 240/241 or MATH 200
ECON 100
ENGL 100 and ENGL 110 or 120 or 130 or 140
MATH 251, 252 and 253
PHYS 250, 260, 270

Conservation and Resource Studies

BIOL 102, 210 and 220
CIS 240/241
ENGL 100 and ENGL 110 or 120 or 130 or 140
MATH 200
Two courses from the following:
ECON 100, 102; PLSC 110, 200, 210; and/or SOCI 100

Forest Products

BIOL 220,
CHEM 210, 220 and 231
ECON 100, 102
ENGL 100 and ENGL 110 or 120 or 130 or 140
MATH 200, 251 and 252
PHYS 210, 220 or PHYS 250, 260

Forestry and Resource Management

BIOL 180, 210, 220 and BIOL 230 or 110
CHEM 210, 220 or CHEM 224, 225
CIS 240/241
ECON 100, 102
ENGL 100 and ENGL 110 or 120 or 130 or 140
ENGR 111
GEOL 100, 101
MATH 200, 251, 252 and 253

Political Economy of Natural Resources

ECON 100, 102
ENGL 100 and ENGL 110 or 120 or 130 or 140
MATH 241, 242 or MATH 251, 252

One course in Economics
One course in either History or Political Science
One course in Humanities
At least 10 units in Natural or Physical Science (including one laboratory course)

University of California, Davis

Agricultural Systems and Environment B.S.
BIOL 110, 210, 220, 230
CHEM 210, 220 or CHEM 224, 225
ECON 102
ECON 123 or MATH 200
MATH 241 or 251
PHYS 210, 220

ACTG 121, 131 (Agricultural Resource Management specialization)

ECON 100 (Agricultural Resource Management specialization)

Agricultural and Managerial Economics B.S.

ACTG 121, 131

CIS 250/251

ECON 100, 102

ECON 123 or MATH 200

MATH 241 or 251 or 251, 252

Animal Science and Management B.S.

ACCT 121, 131

BIOL 110, 210, 220, 230

CHEM 210, 220 or CHEM 224, 225

ECON 100, 102

Environmental Biology and Management B.S.

BIOL 110, 210, 230

CHEM 210, 220 or CHEM 224, 225

CIS 240/241 or 250/251

ECON 102 or PLSC 200, 210

GEOL 100, 101

MATH 241 or 251 or 251, 252

PHYS 210, 220 or PHYS 250, 270

Environmental Policy Analysis & Planning B.S.

BIOL 110, 230 or 100

BIOL 210 or GEOL 200

CHEM 210, 220 or CHEM 224, 225

CIS 240/241 or 250/251

ECON 100, 102

ECON 123 or MATH 200

MATH 241 or 251 or 251, 252

PLSC 200 or 210

Environmental Toxicology B.S.

BIOL 110, 210, 220, 230

CHEM 210, 220 or CHEM 224, 225

CHEM 231, 232

ECON 123 or MATH 200

MATH 241 or 251 or 251, 252

PHYS 210, 220

Environmental and Resource Sciences B.S.

BIOL 110, 210, 220, 230

CHEM 210, 220 or CHEM 224, 225

Two courses from the following:

CIS 240/241, MATH 241 or 251 or 251, 252, GEOL 100, 210, PHYS 210, 220, ECON 123 or MATH 200

University of California, Davis

International Agricultural Development (Natural Sciences) B.S.

BIOL 110, 210, 220, 230

CHEM 210, 220 or 224, 225

CIS 250/251

MATH 241 or 251

ECON 100, 102

PHYS 210

International Agricultural Development (Social Sciences) B.S.

CHEM 100

ECON 100, 102

PHYS 210

11 units from the following:

ANTH 110; ECON 100, 102, ECON 123 or MATH 200; HIST 101; PLSC 110; SOCI 100

10 units from the following:

BIOL 110, 230, BIOL 110, 210, BIOL 110, 220; CHEM 210, 220 or CHEM 224, 225; MATH 251, PHYS 210, ECON 100, 102

10 units from the following two

courses: BIOL 100, 140, 145, CA&S 310

BIOL 240 (recommended)

Soil & Water Science B.S.

BIOL 110, 210, 220, 230

CHEM 210, 220 or CHEM 224, 225

CIS 240/241

ECON 100, 102

ECON 123 or MATH 200

GEOL 210

PHYS 210, 220

BIOL 240 (recommended)

University of California, Santa Cruz

Environmental Studies

ANTH 110 or SOCI 100

BIOL 200

CHEM 192 or 210

ECON 100 or 102

ECON 123 or MATH 200 or

PSYC 121

PLSC 100 or 130 or 150 or 210

PHIL 244

California State University, Chico

Agriculture B.S.

BIOL 110, 220

HORT 320

MATH 200

California State University, Hayward

Environmental Studies

BIOL 184 and 200

CHEM 100, 192

ECON 102, 123

GEOL 100

GEOL 100

Humboldt State University

Fisheries

BIOL 102, 210, 220 and 230

CHEM 410, 420

GEOL 210

MATH 200

MATH 241 or 251

OCEN 100, 101

PHYS 210

Forestry

BIOL 180, 220

CHEM 410

GEOL 210

MATH 200

MATH 241 or 251

PHYS 210

Natural Resources Planning and Interpretation

ANTH 110

BIOL 102, 210, 220 and 230

CHEM 410

GEOL 100, 110

GEOL 210

MATH 200

Oceanography

BIOL 230

CHEM 210, 220

GEOL 210

MATH 200, 251, 252 and 253

OCEN 100, 101

PHYS 250, 260

Range Management

BIOL 102, 220 and 230

CHEM 210

GEOL 210

MATH 200

METE 100

PHYS 100

Wildlife Management

BIOL 102, 210, 220 and 230

CHEM 210, 220, 410 and 420

MATH 200, 222

MATH 241 or 251

PHYS 210

California State University, Sacramento

Environmental Studies

BIOL 110

CHEM 410

ECON 100 or 102

GEOL 210

San Jose State University

Environmental Studies

B.A.: Concentration in

Environmental Technology or Management

BIOL 100

CHEM 210, 220

ECON 102

GEOL 100 or GEOL 210

MATH 125

PHYS 210, 220

Environmental Studies

B.A.: Concentration in Natural Sciences

BIOL 100

CHEM 210, 220

GEOL 100 or GEOL 210

MATH 125

Environmental Studies

B.A.: Concentration in Social Sciences or Humanities

BIOL 100

CHEM 210

ECON 102

MATH 125

GEOL 100

California Polytechnic State University, San Luis Obispo

Forestry & Natural Resources B.S.

ARCH 112 or ENGR 111

BIOL 180, 230

CHEM 210, 220, 231

MATH 200, 222

PHYS 210

Ornamental Horticulture B.S.

BIOL 220 or HORT 320

BUS 201

CHEM 210, 220, 231

HORT 311, 312, 341

HORT 342 or HORT 721, 722

**HUMANITIES/
LANGUAGES - ENGLISH,
FOREIGN LANGUAGES,
HISTORY, LINGUISTICS,
PHILOSOPHY, RHETORIC**

University of California, Berkeley

English

ENGL 100 and ENGL 110 or 120 or 130 or 140

LIT 151, 201, 202 and 231

History

HIST 100, 101 and HIST 201 or 202

University of California, Davis

Classical Civilization A.B.

ART 101 (recommended)

Comparative Literature A.B.

ANTH 110 (recommended)

English A.B.

LIT 115, 201 and 202, 231 and 232

German A.B.

GERM 110, 120 or 111, 112, 121, 122, 131, 132

History A.B.

HIST 100, 101, 201, 202 and 260

Medieval Studies A.B.

ART 102, HIST 100

(recommended)

Latin and other European

languages are strongly recommended

Religious Studies A.B.

ANTH 110

Rhetoric and Communication A.B.

SPCH 100, 120

Spanish A.B.

SPAN 110, 120, 130 or SPAN 111, 112, 121, 122, 131, 132
SPAN 140

University of California, Santa Barbara

History B.A.

HIST 100, 101, 201 and 202
One of the following: HIST 102, 110, 242, 260, 270, 310, 350 or 360

University of California, Santa Cruz

History

HIST 100 or 101
One of the following: ETHN 425; HIST 102, 201, 202, 242 or 260

Philosophy

PHIL 100, 244
SOSC 111

Menlo College

Humanities

PHIL 100

Two years (four semester courses) of one foreign language or equivalent.

Two non-performance, non-studio courses in art, film, music, and/or theater, taken in addition to the courses required for General Education:

ART 101, 102, 103, 104, 106, 108, 151, 152
ETHN 261, 262, 288, 350, 351, 425, 585
FILM 451, 452
HIST 100, 101, 102, 110, 202, 242, 260, 270, 310, 315, 350, 360
HUM 111, 112, 113, 114, 125, 127, 128, 131, 133, 136, 140
LIT 101, 105, 111, 113, 115, 143, 151, 153, 201, 202, 231, 232, 251, 301, 302, 430
MUS 202, 275
PHIL 244, 246

St. Mary's College of California

English

LIT 231, 232

French

Proficiency in French through course FREN 162

History

HIST 100, 101, 201 and 202

Philosophy

PHIL 100, 244
SOSC 111

Religious Studies

LIT 105

Spanish

Proficiency in French through course SPAN 162

California State University, Chico

History B.A.

HIST 100, 101

California State University, Hayward

English

ENGL 100

Two of the following: ENGL 110, 120, 130 and/or 140

English (Language Option)

ENGL 210

Two of the following: ENGL 110, 120, 130 and/or 140

French

FREN 110, 120, 130, 140, 201 and 202

German

GERM 110, 120, 130 and 140

History

HIST 100, 101, 201 and 202

Spanish

SPAN 110, 120, 130, 140, 201 and 202

California State University, Sacramento

English

ENGL 100, 110

LIT 201, 202, 231 and 232

History

HIST 100, 101, 201 and 202

Humanities

HUM 101, 102

Philosophy

SOSC 111

PHIL 100, 246 (optional)

San Francisco State University

Chinese

CHIN 111, 112, 121, 122, 131 and 132

French

FREN 110 or FREN 111 and 112

FREN 120 or FREN 121 and 122

FREN 130 or FREN 131 and 132

German

GERM 110 or GERM 111 and 112

GERM 120 or GERM 121 and 122

GERM 130 or GERM 131 and 132

GERM 140

History

HIST 100, 101, 201, 202

Japanese

JAPA 110 or JAPA 111 and 112

JAPA 120 or JAPA 121 and 122

Philosophy

PHIL 100, 244

SOSC 111

Spanish

SPAN 110

SPAN 120 or SPAN 121 and 122

SPAN 131, 132

San Jose State University

English B.A.

LIT 201, 202, 231, 232

French B.A.

FREN 130, 140

History B.A.

HIST 100, 101

Four of the following: ECON

100, GEOG 110, PLSC 100,

110, PSYC 100

Linguistics B.A.

MATH 251, 252, 253

Philosophy B.A.: Cognition

Concentration

MATH 251, 252

PHIL 100, 244

PSYC 100, 121

SOSC 111

Spanish B.A.

SPAN 130, 140

California Polytechnic State University, San Luis Obispo

English B.A.

LIT 201 or 202

LIT 301 or 302

LIT 231, 232

One of the following: FREN 130,

131, 132, 140; GERM 130, 131,

132, 140; SPAN 130, 131, 132

or 140

History B.A.

HIST 100, 101, 201

INDUSTRIAL ARTS/ TECHNOLOGY - AVIATION, CONSTRUCTION MANAGEMENT

Embry-Riddle Aeronautical University

Aerospace Engineering

CHEM 210, 220 or CHEM 224, 225

CIS 240/241

DRAF 201 or ENGR 210

ECON 100 or 102

ENGR 230 and 270

MATH 251, 252, 253, 270 and

275

PHYS 250, 260, 270

Aviation Computer Science

AERO 126

CIS 290/291, 360/361 and CIS 115/116, 250/251

ECON 100 or 102

MATH 251, 252 and 268

METE 100

PHYS 250, 260, 270

Aviation Maintenance

Management

ACTG 121, 131

BUS 180

CIS 110

ECON 100, 102

ECON 123 or MATH 200

MATH 222 and 241

MGMT 100, 215 and 220

Completion of Airframe and Powerplant Tech A.S. degree or Certificate

California State University, Chico

Construction Management B.S.

ACTG 121, 131

ARCH 112 or ENGR 111

CHEM 210 or 224 or 410

BUS 201

ECON 100, 102

MATH 251

PHYS 210, 220

R.E. 100

Industrial Arts

CHEM 410

DRAF 120

ECON 100

ELEC 231, 232

ELEC 200 or ELEC 710

MATH 130, 200 and 222

PHYS 210

PSYC 100

SPCH 100

WELD 300

Industrial Technology B.S.

(Electronics and Computer

Technology Option)

CHEM 210

CIS 115/116, 240/241 and 290/

291

DRAF 120

ECON 100, 102

ELEC 210, 231, 232, 260 and

310

ELEC 200 or 710

ELEC 250 or 720

MANU 200

MATH 241, 242

PHYS 210, 220

SPCH 100

WELD 300

Industrial Technology B.S.

(Manufacturing Systems

Management Option)

CHEM 224 or 410

CHEM 231 or 420

DRAF 120

ECON 100, 102

ELEC 231, 232

ELEC 200 or 710
MANU 200
MATH 200, 241
PHYS 210, 220
SPCH 100
WELD 300

*Industrial Technology B.S.
(Polymer Technology Option)*

CHEM 224 or 410
CHEM 231 or 420
DRAF 120
ECON 100, 102
ELEC 231, 232
ELEC 200 or 710
MANU 200
MATH 200, 241
PHYS 210, 220
WELD 300
SPCH 100

San Francisco State University

*Industrial Technology (or
Industrial Art)*

CHEM 100
ECON 123 or MATH 200
MATH 130, 241
PHYS 100

San Jose State University

Aviation B.S.

AERO 100, 301, 321, 331, 351
AERO 115 or AERO 320, 340
AERO 126 or AERO 330, 350
CHEM 224
CIS 250/251
DRAF 120 or TA&G 201
ENGR 270
MATH 251, 252

*Industrial Arts B.A.: Design
and Technical Drawing (or
Manufacturing) Technology
Concentration*

CHEM 210
DRAF 120 or TA&G 201
MATH 130, 241

*Industrial Arts B.A.:
Electronics and Computer
Technology Concentration*

CHEM 210
ELEC 110
MATH 130, 241

*Industrial Technology B.S.:
Design and Technical
Drawing Technology
Concentration*

CHEM 210, 220
DRAF 120 or TA&G 201
MATH 130, 241
PHYS 210, 220

*Industrial Technology B.S.:
Electronics and Computer
Technology Concentration*

CHEM 210, 220
ELEC 110
MATH 130, 241
PHYS 210, 220

**California Polytechnic State
University, San Luis Obispo**

*Agricultural Engineering
Technology B.S.*

ARCH 112 or ENGR 111
BUS 201
CHEM 210, 220
MATH 130
PHYS 210, 220
WELD 120, 130

Construction Management B.S.

ARCH 100, 130, 140, 150, 160,
220, 230 and 240
BUS 201
CHEM 210
ENGR 111
MATH 251, 252
PHYS 250, 270

Industrial Technology B.S.

CHEM 210, 220
MATH 200, 222, 251
PHYS 210, 220

**LIBERAL STUDIES -
LIBERAL ARTS, HOME
ECONOMICS**

**St. Mary's College of
California**

Liberal Arts (Diversified)

ENGL 100 and ENGL 110 or 120
or 130 or 140 or 161 or 165
ENGL 200 or 210 or ETHN 267
ETHN 288 or 585 or any
transferable course in ART,
FILM, or MUS
ETHN 510 or any transferable
course in LIT
HIST 201 or PLSC 210
PSYC 100, 201
SPCH 100 or 111 or 112 or 120
or 150 or 184
Any transferable courses in BIOL
(at least one course with
laboratory)

Any transferable courses in
CHEM or PSCI (at least one
course with laboratory)
Any transferable courses in HUM,
PHIL, or foreign languages
Electives in Social Science:

ETHN courses numbered 101
through 262 and 290 through
425, GEOG 110; any
transferable courses in ANTH,
ECON, HIST, PLSC, PSYC,
and/or SOCI

Electives in Math and Science:
GEOG 100; any transferable
courses in ASTR, BIOL,
CHEM, ENGR, GEOL, HSCI,
METE, OCEN, PALN, PSCI,
and/or PHYS

**California State University,
Chico**

Liberal Studies B.A.

BIOL 110
CIS 110
ENGL 100, 110
HIST 201
PLSC 200
SPCH 100

**California State University,
Hayward**

*Liberal Studies: Credential
Track*

ART 101 or 102 or 103 or 106 or
MUS 100
ASTR 100, 101 or CHEM 100 or
CHEM 210 or GEOG 100 or
GEOL 100, 101 or GEOL 210
or METE 100 or OCEN 100,
101 or PHYS 100 or PHYS 210
BIOL 110, 200 and BIOL 111 or
130 or 140 or 145 or 150 or 210
or 220

ENGL 100, 110 and ENGL 120
or 130 or 161

ENGL 165 or SOCI 111

EDUC 101

HIST 100 or 101

SPCH 100

Two of the following courses:

FILM 451, 452, HUM 101,
102, 112, 127, 128, 131, 133,
MUS 100, 101 and/or 275

One transferable course in
Mathematics or Statistics

Two transferable courses in
Humanities: Courses in ART,
MUS, PHIL, or any foreign
language

Three transferable courses from at
least two different disciplines in
Social Sciences: Courses in
ANTH, ECON, GEOG, PLSC,
PSYC and/or SOCI

Two courses in one foreign or
sign language

One course in ART, MUS, or
DANC activity

*Liberal Studies: Liberal Arts
Track*

ART 101, 214 and 301

BIOL 110 (Students must
complete the BIOL 1002 lab
course at Hayward upon
transfer)

CHEM 192 and 210

ENGL 100, 120, 130 and/or 140

GEOL 100, 101 and 210

MUS 100

PHYS 210 or 250

SPCH 100, 120

**California State University,
Sacramento**

*Home Economics-Child &
Family Development*

Two of the following: ART 301,
CA&S 310 and/or FASH 113

*Home Economics-
Environmental Design and
Textiles, Clothing &
Merchandising and General
Home Economics*

ART 301
CA&S 310
FASH 113

*Home Economics-Home
Management, Family
Economics & Consumer
Studies*

ART 301
CA&S 310
ECON 100 or 102
FASH 113
PSYC 201

*Home Economics-Nutrition &
Foods concentration*

ART 301 or FASH 113
BIOL 110
CA&S 310
CHEM 210 or 410 (CHEM 210
required for Dietetics option)

Liberal Studies

ANTH 110 or ECON 100 or
GEOG 110
BIOL 110
ENGL 100
HIST 100 or HIST 101 or HUM
101 or HUM 102
PLSC 200
HIST 201 or 202
SPCH 100
One transferable literature course
(Excluding composition, film
and children's literature
courses.)

San Jose State University

Liberal Studies B.A.

ART 101 or 102 or 305 or 351
BIOL 100
CHEM 410
ENGL 100, 165
GEOG 110
LIT 201, 202, 231 and 232
MUS 202
PLSC 200
SPCH 100
One of the following: ASTR 100;
GEOG 110 or METE 100

**California Polytechnic State
University, San Luis Obispo**

Liberal Studies B.A.

BIOL 210
MUS 100
MUS 131 or 202
PSYC 201
Two courses from a foreign
language, Spanish is
recommended

**LIFE/PHYSICAL SCIENCE
- ANIMAL SCIENCE,
BIOLOGY/BIOLOGICAL
SCIENCES, BOTANY,
CHEMISTRY,
ENTOMOLOGY,
GENETICS, GEOLOGY,
METEOROLOGY,
PHYSICS, PHYSIOLOGY,
ZOOLOGY**
**University of California,
Berkeley**
Astrophysics

 MATH 251, 252, 253, 270 and
275

PHYS 250, 260 and 270

Chemistry

 CHEM 210 or 224 and CHEM
220 or 225 and CHEM 231, 232
and 250

 MATH 251, 252, 253, 270 and
275

PHYS 250, 260, 270

Geology

 CHEM 210, 220 or CHEM 224,
225

GEOL 100, 101

 MATH 251, 252, 253, 270 and
275

PHYS 250, 260

PHYS 270 (optional)

Human Biodynamics

ANTH 110

BIOL 260

CHEM 210 or 224

HIST 101 or 202

MATH 200, 241

PSYC 100

SOCI 100

Integrative Biology

BIOL 210, 220, 230

 CHEM 210 or 224 and CHEM
220 or 225 and CHEM 231, 232

MATH 241

PHYS 250, 260, 270

Molecular & Cell Biology

BIOL 210, 220, 230

 CHEM 210 or 224 and CHEM
220 or 225 and CHEM 231,
232, 250

MATH 251, 252, 253

PHYS 250, 260, 270

Physics

 MATH 251, 252, 253, 270 and
275

PHYS 250, 260, 270

 CHEM 210, 220 or CHEM 224,
225

Plant Biology

BIOL 210, 220, 230

 CHEM 210 or 224 and CHEM
231, 232

CIS 240/241

ECON 100, 102

 ENGL 100 and ENGL 110 or 120
or 130 or 140

HIST 201

 MATH 251, 252 or MATH 241,
242

 PHYS 210, 220 or PHYS 250,
260

PLSC 200 or 210

University of California, Davis
Animal Science B.S.

BIOL 110, 210, 220 and 230

 CHEM 210, 220 or CHEM 224,
225

MATH 241 or 251

PHYS 210 and 220 (recommend)

Applied Physics B.S.

 CHEM 210, 220 or CHEM 224,
225

CIS 240/241

MATH 251, 252, 253, 270, 275

PHYS 250, 260, 270

Atmospheric Science B.S.

BIOL 110, 230

CIS 240/241

 CHEM 210, 220 or CHEM 224,
225

MATH 251, 252, 253, 270, 275

PHYS 250, 260, 270

Avian Sciences B.S.

BIOL 110, 210, 220, 230

 CHEM 210, 220 or CHEM 224,
225

ECON 123 or MATH 200

MATH 241, 242 or 251, 252

Biochemistry B.S.

BIOL 110, 210, 220 and 230

 CHEM 210 or 224 and CHEM
220 or 225 and CHEM 231, 232

ECON 123 or MATH 200

 MATH 241, 242 or 251, 252 or
251, 252, 253

PHYS 210, 220

BIOL 240 (recommended)

Biological Sciences A.B.

BIOL 110, 210, 220 and 230

 CHEM 210 or 224 and CHEM
220 or 225 and CHEM 231, 232

ECON 123 or MATH 200

MATH 241 or MATH 251

BIOL 240 (recommended)

Biological Sciences B.S.

BIOL 110, 210, 220 and 230

 CHEM 210, 220 or CHEM 224,
225 and CHEM 231, 232

ECON 123 or MATH 200

MATH 241, 242 or 251, 252, 253

PHYS 210, 220

BIOL 240 (recommended)

Chemistry A.B.

 CHEM 210 or 224 and CHEM
220 or 225 and CHEM 231, 232

PHYS 210, 220

 MATH 241, 242 or 251, 252 or
251, 252, 253

Chemistry B.S.

 CHEM 210 or 224 and CHEM
220 or 225 and CHEM 231, 232

MATH 251, 252, 253, 270, 275

PHYS 250, 260, 270

Entomology B.S.

BIOL 110, 210, 220, 230

 CHEM 210, 220 or CHEM 224,
225

 CIS 240/241 or MATH 241 or
251

BIOL 240 (recommended)

Fermentation Science B.S.

BIOL 110, 230

 CHEM 210 or 224 and CHEM
220 or 225 and CHEM 231, 232

CIS 240/241 or 250/251

MATH 241 or 251 or 251, 252

PHYS 210, 220

Fiber & Polymer Science B.S.

 CHEM 210, 220 or CHEM 224,
225

CHEM 231, 232

ECON 123 or MATH 200

ENGR 270

FASH 113

 MATH 241, 242 or 251, 252 or
251, 252, 253

 PHYS 210, 220 or PHYS 250,
260, 270

Food Biochemistry B.S.

BIOL 110, 230

 CHEM 210, 220 or CHEM 224,
225 and CHEM 231, 232

 PHYS 210, 220 or PHYS 250,
260, 270

 One course from the following:
CIS 240/241, 250/251, ECON
123 or MATH 200, MATH
253, 270, 275

 MATH 241, 242 or 251, 252 or
251, 252, 253

Genetics B.S.

BIOL 210, 220, 230

 CHEM 210, 220 or CHEM 224,
225

CHEM 231, 232

ECON 123 or MATH 200

 MATH 241, 242 or 251, 252 or
251, 252, 253

PHYS 210, 220

Geology A.B.

 CHEM 210, 220 or CHEM 224,
225

GEOL 210, 220

MATH 251, 252

PHYS 210, 220

CHEM 220 or 224

(recommended)

ECON 123 or MATH 200

(recommended)

Geology B.S.

 CHEM 210, 220 or CHEM 224,
225

MATH 251, 252, 253, 270, 275

MATH 270 or 275

PHYS 210, 220 or PHYS 250,

260, 270

CHEM 250 (recommended)

Human Development B.S.

ANTH 110

BIOL 125

BIOL 110, 230 or 100

CA&S 310

ECON 123 or MATH 200

PSYC 100, 121

Microbiology A.B.

BIOL 110, 210, 220, 230

 CHEM 210, 220 or CHEM 224,
225

CHEM 231, 232

ECON 123 or MATH 200

MATH 241 or 251 or 251, 252

PHYS 210, 220

BIOL 240 (recommended)

Microbiology A.B.
(Bacteriology)

BIOL 110, 210, 220 and 230

CHEM 210, 220, 231 and 232

MATH 200

MATH 241, 242 or 251, 252

CHEM 250 (recommended)

BIOL 240 (recommended)

Microbiology B.S.

BIOL 110, 210, 220, 230

 CHEM 210, 220 or CHEM 224,
225

CHEM 231, 232

ECON 123 or MATH 200

PHYS 210, 220

BIOL 240 (recommended)

Physics A.B. & B.S.

CIS 240/241

MATH 251, 252, 253, 270, 275

PHYS 250, 260, 270

CHEM 210, 220 or 224, 225

 (required for B.S.,
recommended for A.B.)

Physiology

BIOL 110, 210, 220, 230

CHEM 210, 220, 231, 232

 MATH 200 and MATH 241, 242
or 251, 252, 253

PHYS 210, 220

BIOL 240 (recommended)

CHEM 250 (recommended)

Physiology B.S.

BIOL 110, 210, 220, 230

 CHEM 210, 220 or CHEM 224,
225

CHEM 231, 232

ECON 123 or MATH 200

MATH 251, 252, 253

PHYS 210, 220

BIOL 240 (recommended)

Plant Biology (Botany) A.B.

BIOL 110, 210, 220, 230

 CHEM 210, 220 or CHEM 224,
225

ECON 123 or MATH 200

BIOL 240, CHEM 220, 224

(recommended)

Plant Biology (Botany) B.S.
 BIOL 110, 210, 220, 230
 CHEM 210, 220 or CHEM 224, 225
 ECON 123 or MATH 200
 MATH 241, 242 or 251, 252
 PHYS 210, 220
 BIOL 240 (recommended)

Plant Science B.S.
 BIOL 110, 210, 220, 230
 CHEM 210, 220 or CHEM 224, 225
 ECON 100, 102
 MATH 241, 242 or 251, 252
 BIOL 240 (recommended)

Wildlife & Fisheries Biology B.S.
 BIOL 110, 210, 220, 230
 CHEM 210, 220 or CHEM 224, 225
 MATH 241 or 251
 PHYS 210, 220
 BIOL 240 (recommended)

Zoology A.B.
 BIOL 110, 210, 220, 230
 CHEM 210, 220 or CHEM 224, 225
 MATH 241 or 251
 GEOL 220 (recommended)
 PHYS 210, 220
 BIOL 240 (recommended)

Zoology B.S.
 BIOL 110, 210, 220, 230
 CHEM 210, 220 or CHEM 224, 225
 CHEM 231, 232
 MATH 241, 242 or 251, 252 or 251, 252, 253
 PHYS 210, 220
 BIOL 240 (recommended)

University of California, Irvine

Biological Sciences
 BIOL 110, 210, 220
 CHEM 210, 220
 BIOL 200 (recommended)

University of California, Santa Barbara

Biochemistry-Molecular Biology B.A.
 BIOL 210, 220, 230
 CHEM 210, 220
 MATH 251, 252, 253
 PHYS 210, 220
 CHEM 231, 232 (will satisfy Chemistry requirement only by petition at UCSB)
 MATH 275 (recommended)

Biological Sciences and Aquatic Biology B.A.
 BIOL 210, 220, 230
 CHEM 210, 220, 231 and 232
 MATH 200
 MATH 241, 242 or MATH 251, 252, 253
 PHYS 210, 220

Botany and Zoology B.A.
 BIOL 210, 220, 230
 CHEM 210, 220, 231 and 232
 MATH 241, 242 or MATH 251, 252, 253
 MATH 200
 PHYS 210, 220

Chemistry B.A. & B.S.
 CHEM 210, 220, 231 and 232
 MATH 251, 252, 253
 MATH 275 (B.S. only)
 PHYS 210, 220 or PHYS 250, 260, 270 (B.A. only)
 PHYS 250, 260, 270 (B.S. only)

Ecology and Evolution B.A.
 BIOL 210, 220, 230
 CHEM 210, 220
 MATH 200
 MATH 241, 242 or MATH 251, 252, 253
 PHYS 210, 220

Microbiology B.S.
 BIOL 210, 220, 230
 CHEM 210, 220, 231 and 232
 MATH 200
 MATH 241, 242 or MATH 251, 252, 253
 PHYS 210, 220

Physics B.A. & B.S.
 CHEM 210, 220
 MATH 251, 252, 253 and 275
 PHYS 250, 260, 270

Physiology and Cell Biology B.A.
 BIOL 210, 220, 230
 CHEM 210, 220, 231 and 232
 MATH 200
 MATH 241, 242 or MATH 251, 252, 253
 PHYS 210, 220

University of California, Santa Cruz

Biology
 BIOL 210, 220, 230

Chemistry
 CHEM 192
 CHEM 210, 220 or CHEM 224, 225
 CHEM 231, 232

Chemistry, B.A.
 CHEM 210, 220 or CHEM 224, 225
 CHEM 231, 232
 MATH 251, 252, 253
 PHYS 250, 260, 270

Earth Sciences
 GEOL 210
 OCEN 100

Physics
 PHY 250, 260, 270

Menlo College

Biotechnology Management
 ACTG 121, 131

BUS 100
 CIS 110
 CHEM 410
 ECON 100, 102
 MATH 241
 MATH 200 or ECON 123
 PHYS 210

St. Mary's College of California

Biology
 BIOL 210, 220
 CHEM 210, 220, 231, 232 and 250
 MATH 241, 242 or MATH 251, 252
 PHYS 210, 220 or PHYS 250, 260, 270

Chemistry
 CHEM 210, 220, 231, 232 and 250
 MATH 251, 252, 253
 PHYS 250, 260, 270

New Mexico Institute Mining and Technology

Basic Sciences
 FREN 111, 112 or GERM 111, 112 or SPAN 111, 112

Biology (B.S.)
 BIOL 110, 210, 220, 230 and 240
 CHEM 231, 232 and 250
 CIS 240 or 250
 FREN 111, 112 or GERM 111, 112 or SPAN 111, 112

Biology with Environmental Science Option (B.S.)
 BIOL 110, 210, 220, 230 and 240
 CHEM 231, 232 and 250
 CIS 240 or 250
 FREN 111, 112 or GERM 111, 112 or SPAN 111, 112

Biology with Medical Technology Option (B.S.)
 BIOL 110, 210 and 240
 CHEM 231 and 250
 CIS 240 or 250

Chemistry (B.S.)
 CHEM 231, 232 and 250
 MATH 253
 FREN 111, 112 or GERM 111, 112 or SPAN 111, 112

Chemistry: Biochemistry Option (B.S.)
 CHEM 231, 232 and 250
 MATH 253
 FREN 111, 112 or GERM 111, 112 or SPAN 111, 112

Chemistry: Environmental Science Option (B.S.)
 CHEM 231, 232 and 250
 MATH 253
 FREN 111, 112 or GERM 111, 112 or SPAN 111, 112

Geology (B.S.)
 GEOL 210, 220

FREN 111, 112 or GERM 111, 112 or SPAN 111, 112

Geophysics (B.S.)
 GEOL 210, 220
 MATH 253 and 270

Physics (B.S.)
 MATH 253, 270 and 275
 FREN 111, 112 or GERM 111, 112 or SPAN 111, 112

Physics: Astrophysics Options (B.S.)
 MATH 253, 270 and 275
 FREN 111, 112 or GERM 111, 112 or SPAN 111, 112

Physics: Computer Science Option (B.S.)
 CIS 250
 MATH 253, 270 and 275
 FREN 111, 112 or GERM 111, 112 or SPAN 111, 112

Physics: Electronics Option (B.S.)
 CIS 250
 MATH 253 and 275

Physics: Environmental Science Option (B.S.)
 MATH 253, 270 and 275

California State University, Chico

Biological Sciences B.S.
 BIOL 210, 220, 230
 CHEM 210, 220 or CHEM 224, 225
 CHEM 231
 PHYS 210, 220

Chemistry B.S.
 CHEM 210, 220 or CHEM 224, 225
 CHEM 231
 MATH 251, 252, 253
 PHYS 250, 260, 270

Geology B.S.
 CHEM 210 or 224
 GEOL 210
 MATH 251
 PHYS 210 or 250
 One of the following: MATH 130, 200, 222 or 252

Microbiology B.S.
 BIOL 210, 220, 230 and 240
 CHEM 210, 220 or CHEM 224, 225
 CHEM 231
 PHYS 210, 220

Physical Science B.S.
 CHEM 210, 220 or 224, 225
 MATH 200, 222, 251 or MATH 251, 252, 253 or MATH 241, 242
 PHYS 210, 220 or PHYS 250, 260
 ARCH 112 or ENGR 111 (Earth Science and Hydrology Emphasis)

BIOL 110, 210 or 220 (Earth Science and Hydrology Emphasis)
 BIOL 210, 220 (Earth Science Emphasis)
 GEOL 210 (Earth Science and Hydrology and Environmental Science Emphasis)
 MATH 275 (The Astronomy Emphasis)

Physics B.S.

CHEM 210, 220 or 224, 225
 CIS 240/241
 MATH 251, 252, 253
 PHYS 250, 260, 270

California State University, Hayward

Biological Sciences

BIOL 210, 220, 230
 CHEM 210, 220
 MATH 222 or 251
 PHYS 210, 220

Chemistry

CHEM 210, 220 and 250
 CIS 230/231 or 240/241
 MATH 251, 252, 253 and 270
 PHYS 250, 260, 270

Geology

CHEM 192
 CIS 110
 GEOL 210, 220
 MATH 251
 PHYS 210, 220
 PALE 110

Physical Science

ASTR 100
 BIOL 110 or 230
 CHEM 210, 220
 GEOL 210
 MATH 251, 252, 253
 METE 100
 PHYS 210, 220 or PHYS 250, 260, 270

Physics

CHEM 210, 220
 MATH 251, 252, 253 and 270
 PHYS 250, 260, 270

California State University, Sacramento

Biology

BIOL 110, 210, 220 and 240
 CHEM 210, 220
 MATH 222 or MATH 241 or MATH 251, 252
 PHYS 210, 220

BIOL 250 (Anatomy & Physiology concentration)
 CHEM 250 (Anatomy & Physiology, Aquatic Biology, Clinical Laboratory Technology, Public Health Microbiology and Molecular Biology concentration)
 MATH 200 (Biological Conservation and Environmental Health Science concentration)

Chemistry

CHEM 210, 220, 231 and 250
 MATH 251, 252, 253
 PHYS 210, 220 (B.A. degree only) or PHYS 250, 260, 270 (optional for B.A., required for B.S. degree)
 BIOL 110 (Biochemistry concentration)

Geology

CHEM 210
 GEOL 210, 220
 MATH 222, 241 or 251 (B.A. degree only)
 PHYS 210 or 250 (B.A. degree only)
 CHEM 220 (B.S. degree only)
 CIS 240/241 (B.S. degree only)
 MATH 251, 252, 253 (B.S. degree only)
 PHYS 210, 220 or 250, 270 (B.S. degree only)

Physics

CHEM 210, 220
 MATH 251, 252, 253 and 275
 PHYS 250, 260, 270

San Francisco State University

Biochemistry

BIOL 210
 CHEM 210, 220
 MATH 251, 252, 253
 PHYS 210, 220

Biology: Concentration in Botany

BIOL 210, 220, 230
 CHEM 210, 220, 231
 CIS 250/251 or MATH 251
 PHYS 210, 220

Biology: Concentration in Cell and Molecular Biology

BIOL 210, 220, 230
 CHEM 210, 220
 CIS 250/251
 MATH 200, 251, 252, 253
 PHYS 210, 220

Biology: Concentration in Ecology

BIOL 210, 220, 230
 CHEM 210, 220, 231
 CIS 250/251 or MATH 251
 PHYS 210, 220

Biology: Concentration in Marine Biology and Limnology

BIOL 210, 220, 230
 CHEM 210, 220, 231
 CIS 250/251
 MATH 200, 251, 252, 253
 PHYS 210, 220

Biology: Concentration in Microbiology

BIOL 210, 220, 230
 CHEM 210, 220
 CIS 250/251
 MATH 200, 251, 252, 253

PHYS 210, 220

Biology: Concentration in Physiology

BIOL 210, 220, 230
 CHEM 210, 220, 231
 CIS 250/251
 MATH 200, 251, 252, 253
 PHYS 210 and 220 or PHYS 250 and 260

Biology: Concentration in Zoology

BIOL 210, 220, 230
 CHEM 210, 220, 231
 CIS 250/251
 MATH 200, 251, 252, 253
 PHYS 210, 220

Biology: General Biology

BIOL 210, 220, 230
 CHEM 210, 220, 231
 PHYS 210, 220

Chemistry B.A.

CHEM 210, 220
 MATH 251, 252 or PHYS 210, 220 or PHYS 250, 260, 270

Chemistry B.S.

CHEM 210, 220
 MATH 251, 252, 253
 PHYS 250, 260, 270

Clinical Science

BIOL 210, 220, 230
 CHEM 210, 220, 231
 MATH 200 or 251
 PHYS 210, 220

Geology B.A.

CHEM 210
 GEOL 210
 MATH 251, 252
 PHYS 250
 CHEM 220 or PHYS 260 or PHYS 270

Geology B.S.

CHEM 210, 220
 GEOL 210
 MATH 251, 252
 PHYS 210, 220 or PHYS 240 and 260 or 270

Geosciences: Concentration in Meteorology

BIOL 210
 CHEM 210, 220
 MATH 251, 252, 253
 PHYS 250, 260

Physics B.A. or B.S.

CIS 250/251
 MATH 251, 252, 253
 PHYS 250, 260, 270

San Jose State University

Biological Science B.A.

BIOL 210, 220, 230
 CHEM 210, 220, 231 and 232
 PHYS 210, 220

Biological Science B.S.: Applied Microbiology, Marine Biology, Medical Microbiology and Immunology Concentrations

BIOL 110, 210, 220
 CHEM 250
 MATH 251
 PHYS 210, 220
 BIOL 130 (Medical Microbiology and Immunology concentration only)

Biological Science B.S.: Botany, Entomology, General Biology, Zoology Concentrations

BIOL 210, 220, 230
 CHEM 210, 220, 231 and 232
 PHYS 210, 220

Biological Science B.S.: Clinical Laboratory Science Concentration

BIOL 210, 220, 230
 CHEM 210, 220, 231, 232, 250
 MATH 120 or higher
 PHYS 210, 220

Biological Science B.S.: Environmental Biology, Environmental Health-Applied Toxicology, Molecular Biology, Systems Physiology Concentrations

BIOL 210, 220, 230
 CHEM 210, 220
 PHYS 210, 220
 MATH 130 or higher (Environmental Biology Concentration)
 MATH 241 or 251 (Environmental Health - Applied Toxicology Biology & Molecular Biology & Systems Physiology Concentrations)

Biological Science B.S.: Wildlife Ecology Concentration

BIOL 210, 220, 230
 CHEM 210, 231
 PHYS 210

Chemistry B.A.

CHEM 210, 220, 250
 MATH 251
 PHYS 210, 220

Chemistry B.S.

CHEM 210, 220, 250
 GERM 110 or GERM 111 and 112
 GERM 120 or GERM 121 and 122
 MATH 251, 252, 253
 PHYS 250, 260, 270

Chemistry B.S.: Concentration in Analytical Chemistry, Nuclear and Radiochemistry

CHEM 210, 220, 250
 MATH 251, 252, 253
 PHYS 250, 260, 270

Chemistry B.S.: Concentration in Biochemistry

BIOL 210, 230
CHEM 210, 220, 250
MATH 251, 252, 253
PHYS 250, 260, 270
BIOL 240 (recommended)

Geology B.A.

CHEM 210, 220
GEOL 210
MATH 251
PHYS 210, 220

Geology B.A.: Concentration in Oceanography

CHEM 210, 220
CIS 240/241 or CIS 250/251 or ENGR 111
MATH 251
PHYS 210, 220

Geology B.S.

CHEM 210, 220
ENGR 111
MATH 251, 252, 253
GEOL 210
PHYS 250, 260, 270

Geology B.S.: Concentration in Geophysics, Oceanography

CHEM 210, 220
CIS 240/241 or CIS 250/251 or ENGR 111
GEOL 210
MATH 251, 252, 253
PHYS 250, 260, 270
MATH 275 (recommended for Geophysics)

Meteorology B.S.

CHEM 210 or 224
MATH 251, 252, 253 and 275
METE 100
PHYS 250, 260, 270
MATH 275 (recommended)

Natural Science B.A.: Nature Interpretation Concentration

ART 351
BIOL 110, 210, 220
CHEM 210, 231

Physical Science

BIOL 100, 210, 220
CHEM 210, 220, 250
GEOL 210
MATH 251, 252
PHYS 250, 260, 270

Physics B.A.

CHEM 224, 225
CIS 240/241
MATH 251, 252, 253 and 275
PHYS 250, 260, 270

Physics B.S.

CHEM 210, 220
CIS 240/241
MATH 251, 252, 253 and 275
PHYS 250, 260, 270

California Polytechnic State University, San Luis Obispo**Agricultural Science B.S.**

CHEM 210
Animal Science B.S.
BIOL 210 or 230
CHEM 210, 220, 231

Biochemistry B.S.

BIOL 230 or HORT 320
CHEM 210, 220, 231, 232 and 250
MATH 251, 252
PHYS 210, 220 or PHYS 250, 260, 270

Biological Science B.S.

CHEM 210, 220, 231
MATH 200
PHYS 210, 220
MATH 222 or 251

Chemistry B.S.

CHEM 210, 220, 231, 232 and 250
MATH 251, 252, 253 and 275
PHYS 250, 260, 270

Crop Science B.S.

BIOL 220 or HORT 320
CHEM 210, 220, 231

Dairy Science B.S.

CHEM 210, 220, 231
PHYS 210

Ecology & Systematic Biology B.S.

CHEM 210, 220, 231
MATH 200
MATH 222 or 251
PHYS 210, 220

Fruit Science B.S.

BIOL 220 or HORT 320
CHEM 210, 220, 231

Mircobiology B.S.

BIOL 240
CHEM 210, 220, 231 and 250
MATH 130 or 222
MATH 200
PHYS 210, 220

Physical Science B.S.

CHEM 210, 220, 231
GEOL 100
MATH 251, 252, 253
PHYS 210, 220 or PHYS 250, 260, 270

Two of the following: CIS 270/271; ECON 123 or MATH 200; MATH 268, 270 and/or 275

Physics B.S.

CHEM 210, 220
CIS 270/271
MATH 251, 252, 253 and 275
PHYS 250, 260, 270

Poultry Industry B.S.

BUS 101 or 201
CHEM 210, 220, 231

Soil Science B.S.

BIOL 220 or HORT 320

BIOL 240
CHEM 210, 220
GEOL 100
MATH 251
MATH 130 or 252
PHYS 210, 220 or PHYS 250, 270

MATHEMATICS AND STATISTICS**University of California, Berkeley****Mathematics/Applied Mathematics**

MATH 251, 252, 253, 270 and 275

University of California, Davis**Mathematics A.B.**

CIS 240/241 or CIS 250/251
MATH 251, 252, 253, 270, 275
PHYS 250

Additional non-Mathematics courses chosen from natural sciences.

Mathematics B.S.

CIS 240/241 or CIS 250/251
MATH 251, 252, 253, 270, 275
MATH 200 or ECON 123 (Track 4 only: General Mathematics)
PHYS 250 (Track 3 only: Mathematics for Secondary Teaching)
PHYS 250, 260, 270 (Track 1 and 2 only: Preparation for Graduate Study and Applied Mathematics)

Statistics A.B.

MATH 251, 252, 253, 270, 275
CIS 240/241 or CIS 250/251

Statistics B.S. (Computer Science)

CIS 250/251, 270/271, 290/291
MATH 251, 252, 253, 270, 275

Statistics B.S. (General Option)

CIS 240/241 or CIS 250/251
MATH 251, 252, 253, 270, 275

University of California, Santa Barbara**Mathematics and Mathematical Sciences B.A. & B.S.**

CIS 240/241 and CIS 115/116 or 250/251
MATH 251, 252, 253, 270 and 275
PHYS 210 or 250

University of California, Santa Cruz**Mathematics**

MATH 200, 222, 251, 252, 253, 270, 275

St. Mary's College of California**Mathematics**

MATH 251, 252, 253, 268 and 270
CIS 250/251, 350/351 (for concentration in Computer Science only)
PHYS 250, 260, 270 (for B.S. degree only)
One additional course from BIOL, CHEM, CIS, PSCI, or PHYS (for B.S. degree only)

New Mexico Institute Mining and Technology**Mathematics (B.S.)**

CIS 240 or 250
MATH 253, 270 and 275

Mathematics: Applied Numerical Analysis Option (B.S.)

CIS 250
MATH 253, 270 and 275

California State University, Chico**Mathematics B.S.**

CIS 240/241 and 250/251
MATH 251, 252, 253, 270 and 275

California State University, Hayward**Mathematics**

CIS 250/251
MATH 251, 252, 253 and 270

California State University, Sacramento**Mathematics**

CIS 240/241 or 250/251
MATH 251, 252, 253, 270 and 275

San Francisco State University**Mathematics and Applied Mathematics**

CIS 250/251
MATH 251, 252, 253

Statistics

CIS 250/251
ECON 102
ECON 123 or MATH 200
MATH 251, 252, 253, 270, 275

San Jose State University**Applied and Computational Mathematics B.S.**

CIS 240/241
MATH 251, 252, 253, 270
PHYS 250, 260
MATH 275 (recommended)

Mathematics B.A.

CIS 240/241 or CIS 270/271
MATH 251, 252, 253
MATH 270 (recommended)

California Polytechnic State University, San Luis Obispo

Mathematics B.S.
 CIS 250/251
 MATH 251, 252, 253, 270 and 275
 PHYS 250, 260, 270
Statistics B.S.
 MATH 251, 252, 253, 270 and 275

SOCIAL SCIENCE - ANTHROPOLOGY, CITY AND REGIONAL PLANNING, ETHNIC STUDIES, GEOGRAPHY, INTERNATIONAL RELATION, LIBERAL STUDIES, POLITICAL SCIENCE, PSYCHOLOGY, PUBLIC ADMINISTRATION, SOCIAL WELFARE, SOCIOLOGY, WOMEN'S STUDIES

University of California, Berkeley

African-American Studies
 ETHN 261, 262
 HUM 131

Anthropology
 ANTH 110
 BIOL 125

Development Studies

ANTH 110
 ECON 100, 102
 PLSC 110
 MATH 200

Two semesters of foreign language at CSM (5 units each) or equivalent

BIOL 102 (recommended)
 GEOG 110 (recommended)
 MATH 241 (recommended)

Geography
 GEOG 100, 110

Latin American Studies

One of the following:
 ANTH 110; GEOG 110; PLSC 110; SOCI 100; or ECON 100 and 102
 SPAN 110, 120, 130 and 140

Legal Studies
 ECON 100, 102
 HIST 100, 101
 MATH 200
 PHIL 100

Political Economy of Industrial Societies

ECON 100, 102
 HIST 101
 MATH 200
 PLSC 110

HIST 202 (recommended)
 MATH 251, 252 (recommended)

Political Science
 HIST 100 or 101 and HIST 201, 202
 PLSC 110 and PLSC 200 or 210

Psychology
 BIOL 125 or 160
 MATH 200 or PSYC 121
 PSYC 100
 Two from the following: ANTH 110, ENGL 200 and/or SOCI 100

Two from the following: BIOL 210, 220, 230 and/or 260

Social Sciences

HIST 100, 101

Social Welfare

ANTH 110
 ECON 100, 102
 MATH 200 or PSYC 121
 PLSC 200 or 210
 PSYC 100
 SOCI 100

University of California, Davis

African-American and African Studies A.B.

One course from the following:
 ECON 123 or MATH 200 or PSYC 121
 HIST 201, 202

Two courses from the following:
 ANTH 110; ECON 100, 102; PLSC 110, 200, 220; PSYC 100 and/or SOCI 100

American Studies A.B.

ANTH 110 or SOCI 300
 LIT 201 or 202

Two courses from the following:
 HIST 201, 202 and/or 206

Anthropology A.B.

ANTH 110
 BIOL 125
 ECON 123 or MATH 200

Foreign language (10 semester units in one language)

Anthropology B.S.

ANTH 110
 BIOL 125
 BIOL 110, 210, 230
 CHEM 210, 220 or CHEM 224, 225
 ECON 123 or MATH 200

Foreign language (10 units or the equivalent in one language)
 GEOL 100, 101 (recommended)
 PHYS 210, 220 (recommended)
 PSYC 100 (recommended)

Applied Behavioral Science B.S.
 ANTH 110 or SOCI 100
 ECON 100, 102
 ECON 123 or MATH 200

Chicana/Chicano Studies A.B.
 SPAN 110, 120, 130 or 111, 112,

121, 122, 131, 132

Geography B.S.

BIOL 110, 230
 BIOL 210 or 220 or PHYS 210, 220
 CHEM 210, 220 or CHEM 224, 225
 CIS 250/251
 ECON 123 or MATH 200
 MATH 241, 242 or 251, 252 or 251, 252, 253
 PHYS 250, 260, 270 (recommended)

International Relations A.B.

ECON 100, 102
 GEOG 110
 HIST 101
 PLSC 130

One course from the following:
 ANTH 110; HIST 100, 101; HIST 202; PLSC 200 or 210, PLSC 110

Foreign language: 16 to 20 units in one modern foreign language
 ECON 123 or MATH 200 (recommended)

Native American Studies A.B.

ANTH 110 or HIST 201

Political Science A.B.

HIST 100, 101
 Three courses from the following:
 PLSC 110, 130, 150, 200 or 210, and/or 215

Political Science A.B. (Public Service)

PLSC 200 or 210 and PLSC 215
 Two courses from the following:
 PLSC 110, 130 and/or 150
 ECON 100, 102 (recommended)

Psychology A.B.

ANTH 110 or SOCI 100
 BIOL 110, 230 or BIOL 100, 125
 ECON 123 or MATH 200 or PSYC 121
 PSYC 100

Psychology B.S. (Biology)

BIOL 110, 230 or BIOL 100, 125
 CHEM 210, 220 or CHEM 224, 225

ECON 123 or MATH 200 or PSYC 121

MATH 251, 252, 253
 PHYS 100 or PHYS 210, 220
 PSYC 100

One course in Sociology or Cultural Anthropology (minimum 4 units)

Psychology B.S. (Mathematics)

BIOL 110, 210, 220, 230
 CHEM 100 or CHEM 210, 220 or CHEM 224, 225
 CIS 240/241 or CIS 250/251
 ECON 123 or MATH 200 or PSYC 121
 MATH 251, 252, 253
 PHYS 100 or PHYS 210, 220

PSYC 100

One course in Sociology or Cultural Anthropology (minimum 4 units)

Sociology (Comparative Studies and World Development emphasis)

ANTH 110
 ECON 100, 102
 PLSC 110
 SOCI 100

Sociology (Law and Society emphasis)

SOCI 100, 105
 Two of the following: ANTH 110, BIOL 125; ECON 100, 102; HIST 100, 101, 201, 202; PLSC 110, 130, 150, 200, 210; and/or PSYC 100

Sociology A.B.

ANTH 110
 SOCI 100, 105, 300
 PLSC 150

One of the following: HIST 100, 101, 201, 202

Sociology A.B. (Social Services)

PSYC 100
 SOCI 105, 300

Sociology-Organizational Studies A.B.

ECON 100, 102
 MATH 241 or 251
 SOCI 100
 CIS 250/251 (recommended)
 MATH 241, 242 or 251, 252 (recommended)

Women's Studies A.B.

Two courses from the following:
 ANTH 110, HIST 260, LIT 115, 201, 202, 231, 232, PSYC 100, SOCI 100 and/or 105

University of California, Santa Cruz

Anthropology

ANTH 110
 BIOL 125

Politics

PLSC 100 or 200 or 210

Psychology

MATH 200 or PSYC 121
 PSYC 100, 105, 201
 PSYC 300 or SOCI 300

Sociology

SOCI 100, 105

Menlo College

Psychology (Counseling Psychology Option)
 PSYC 100

Psychology (Human Resource Management Option)

ACTG 121, 131
 BUS 100

ECON 100, 102
PSYC 100

St. Mary's College of California

Government

ECON 100, 102
PLSC 100 or 150 and PLSC 130, 210

Psychology

PSYC 100, 105 and 121
BIOL 260 (for B.A. degree only)
BIOL 110, 260 (for B.S. degree only)

New Mexico Institute Mining and Technology

Psychology (B.S.)

BIOL 110, 210
CIS 240 or 250
MATH 200
PSYC 121, 300 and 410

California State University, Chico

Geography B.A.

GEOG 100, 110

International Relation B.A. (Environmental Issue Option)

BIOL 110
ECON 100 or 102

Psychology B.A.

MATH 200 or PSYC 121
PSYC 100, 105

California State University, Hayward

Anthropology

ANTH 110
BIOL 125

Ethnic Studies

ETHN 101, 102, 261 and 350

Geography

GEOG 100, 110

Political Science

PLSC 200, 210
Additional classes: PLSC 100, 110, 130, 150 and/or 170

Psychology

BIOL 110
MATH 200
PSYC 100, 105

California State University, Sacramento

Anthropology

ANTH 110
BIOL 125

Geography

GEOG 100, 110

Government

PLSC 200

Psychology

PSYC 100, 105

Two of the following: PSYC 105, 201, 300, and/or 410

Social Science

ECON 100
HIST 201, 202
PLSC 200

One of the following: ANTH 110 (Anthrology area of study) or PSYC 300 (Psychology area of study) or SOCI 100 (Sociology area of study)

Sociology

SOCI 100
SOCI 105 (General Sociology and Race and Ethnicity areas of study only)
SOCI 110 (Family and Socialization area of study only)

San Francisco State University

Anthropology

ANTH 110
BIOL 125

Geography

GEOG 100, 110

International Relations

PLSC 130

Political Science

PLSC 100
PLSC 200 or 210

Psychology

PSYC 100

Sociology

SOCI 100

San Jose State University

African-American Studies B.A.

ETHN 102
HUM 131

Anthropology B.A.

ANTH 110

Behavioral Science B.A.

ANTH 110
PSYC 100
SOCI 100

Behavioral Science with a Double Major in Psychology B.A. (or Sociology B.A.)

ANTH 110
MATH 200
PSYC 100
SOCI 100

Geography B.A.

GEOG 100, 110

Political Science B.A.

PLSC 100, 110, 200

Political Science B.A.: Public Administration Concentration

BUS 295
ECON 100
PLSC 100, 110, 200

Political Science B.A.: Public Policy Concentration

ECON 102
PLSC 100, 110, 200

Psychology B.A.

BIOL 250
MATH 200 or PSYC 121
PSYC 100

Public Relations B.S.

ECON 100
JOUR 110, 120
PSYC 100

Social Science B.A.

Five of the following: ANTH 110; ECON 100 or 102; GEOG 110; HIST 100 or 101; PLSC 110; PSYC 100 and/or SOCI 100

Social Work B.A.

BIOL 130
ENGL 100 or 105 and ENGL 165
ETHN 102
MATH 200
SPCH 100

Sociology B.A.

SOCI 100, 105

California Polytechnic State University, San Luis Obispo

City and Regional Planning B.S.

ARCH 100
ECON 100, 102
GEOL 100
MATH 200

Human Development B.S.

BIOL 160
CA&S 310
ECON 123 or MATH 200
ETHN 150, 261
PSYC 100

Political Science B.A.

HIST 100, 101
PLSC 100, 130, 150

Social Science B.S.

ANTH 110
BIOL 125
GEOG 100, 110
LIBR 100
PLSC 130
MATH 200
SOCI 100, 105

A.A./A.S. Degree Requirements

Graduation from College of San Mateo with the Associate in Arts or Science degree is based upon the completion of 60 units of lower-division college-level work, including the requirements A through E listed below. A maximum of 12 units from courses in which the student has elected a Credit/No Credit option may be applied toward an Associate degree. An application for the degree must be filed in the Office of Admissions and Records during the last semester of attendance (refer to calendar for the college year for deadline).

Student Catalog Rights

A student remaining in continuous attendance at Cañada College, College of San Mateo and/or Skyline College may, for purposes of graduation, elect to meet the requirements in effect at the college from which the student will graduate either at the time the student began such attendance or any subsequent year of continuous enrollment.

For the purpose of this policy, "continuous enrollment" means attendance through at least the fourth week of instruction in either a fall or spring semester in each calendar year. Absence to attend another accredited college or university shall not be considered an interruption in attendance if the absence does not exceed one year. Catalog rights cannot supersede any State or Federal regulation or requirement in effect at the time of graduation.

A. RESIDENCE

Either 48 units of the 60 units required or the last 12 units must be completed at College of San Mateo.

B. SCHOLARSHIP

A minimum grade point average of 2.0 in the last 60 units, and a minimum grade point average of 2.0 in courses taken at College of San Mateo and submitted as part of the 60 units.

C. COMPETENCY REQUIREMENTS

1. Math/Quantitative Reasoning

This competency requirement may be satisfied with any of the following:

- a. Appropriate scores on ACT math, SAT

math, or CSM Math Placement Test as follows:

ACT – standard score of 15 or above on math test;

SAT – quantitative score of 400 or above;

CSM Math Test 2 – 21 or above;

CSM Math Test 3 – 21 or above;

CSM Math Test 4 – 20 or above

- b. Completion with a grade of C or higher of an elementary algebra (MATH 110 or MATH 111 and 112) or higher math course at College of San Mateo or other college or university;
- c. Completion with a grade of C or higher of an intermediate algebra or higher math course in high school within four years prior to receiving the AA/AS degree;
- d. Completion of any one of the following courses with a grade of C or higher:
Any course with Mathematics 110 or higher math prerequisite
Business 115
Computer and Information Science 240, 250, 252, 290, 304, 360
Chemistry 192
Economics 123
Electronics Technology 230 or both 231 and 232
Manufacturing and Industrial Technology 101
Plumbing 702, 742
Psychology 121
Real Estate 131

2. English

This competency requirement may be satisfied by:

- a. Completion of English 100 or 105 with a grade of C or higher,
or by satisfying both **b.** and **c.** below:
- b. Completion of one of the following courses with a grade of C or higher: English 800, 820, 825, or 835 (or English 400 in the case of non-native speakers), **and**
- c. Placement in Reading 420 based upon the Reading Placement Test or completion of Reading 802 with a grade of C or higher.

D. MAJOR

A list of courses for each major is specified by the division involved. A minimum of 18 units must be required, 15 of which must be taken at College of San Mateo. A division may require more than 18 units for a given

major. A grade point average of 2.0 in the major is required.

If courses totaling 18 units are required for a given major, they cannot be used to satisfy any other A.A. or A.S. degree requirement. Units required beyond the 18-unit minimum may, if appropriate, be used to satisfy other A.A. or A.S. degree requirements.

E. GENERAL EDUCATION

General Education introduces the student to areas of study that develop breadth of outlook and contribute to a balanced educational development. The courses are complementary to, but different in emphasis from, the specialized training one receives for a job, a profession or a particular field of study.

1. American History and Institutions, California State and Local Government

This requirement may be satisfied in two different ways:

- a. by completing either Political Science 200: National, State and Local Government (5 units), or, for foreign students, Political Science 205: American Society (5 units); or (Courses used to satisfy the American History and Institutions, California State and Local Government requirement may not be used to satisfy requirements listed under 5b, Social Sciences.)
- b. by completing one of the options in each of the groups listed below.

GROUP 1: AMERICAN HISTORY AND INSTITUTIONS

- a. History 201 and 202 – United States History (6 units), or
- b. Political Science 210, 212, 215, 220, 250, 255, or 260 (3 units), or
- c. History 100 and 102 – Western Civilization (6 units), or
- d. History 101 and 102 – Western Civilization (6 units), or
- e. History 201 or 202 – plus any one of the following 3-unit history courses:
242 The African-American in U.S. History (3)
260 Women in American History (3)
270 Civil War and Reconstruction (3)
350 The American West (3)
360 The South in American History (3)
- f. History 810 – American History and Current World Affairs (3)

GROUP 2 – CALIFORNIA STATE AND LOCAL GOVERNMENT

- a. Political Science 310 – California State and Local Government (2 units), or
- b. History 315 – History of San Mateo County (3 units), or
- c. History 310 – California History (3 units), or
- d. Sociology 200 – Urban Sociology (3 units), or
- e. Ethnic Studies 101 or 102 (3 units)

2. Language and Rationality**a. English, Literature, Speech**

Two courses (3 units each) are required. One of these shall be a composition course selected from English 100, 105, 400, 800, 820, 825 or 835; the other shall be selected from the following list:

English: 100*, 105*, 110*, 120*, 130*, 140*, 161, 162, 163, 165*, 195, 210*, 400* (for non-native speakers), 680, 690

Literature: 101*, 105*, 111*, 113*, 115*, 143*, 151*, 201*, 202*, 231*, 232*, 251*, 301*, 302*, 430*, 680, 690

Speech: 100*, 111, 112, 120*, 130, 150, 680, 690, 844 (for non-native speakers)

Courses marked above with an asterisk (*) also satisfy the Communication and Analytical Thinking Requirement (2b). Credit for English 100 may be earned by those students who can demonstrate equivalent knowledge through examinations acceptable to the Language Arts Division and the Office of Instruction.

b. Communication and Analytical Thinking

This requirement may be satisfied by completing one of the following courses:

English, Literature and Speech: indicated by * in the above listing.

Business: 295, 401

Economics: 123

Math: 125, 130, 200, 222, 241, 251

Computer and Information Science: 110, 115/116, 130/131, 240/241, 250/251, 290/291, 320, 360/361

Social Science: 111

3. Health Science

Two units of Health Science are required (Health Science 100 (2 units) or two classes selected from Health Science 101-114). One unit of Consumer Arts & Science 310 may be used in lieu of Health Science 113. The requirement may be waived for veterans of the U.S. Armed Forces with one or more years active service and for nursing students who complete Nursing 211, 212, 221 and

222, or equivalent, with a grade of C or higher.

4. Physical Education

Students must complete two semester-long activity courses in Physical Education or Dance, unless excused, to complete the requirements for the Associate in Arts or Associate in Science degree. The two courses for this requirement may not be taken concurrently. Courses involving Varsity Athletics do not count for activity credit unless the number of units is at least one per semester.

In accordance with policy adopted by the Board of Trustees, this requirement may be waived for students in any of the following categories:

a. Graduates of accredited community colleges or other accredited colleges and universities.

b. Persons enrolled in Evening classes (i.e., those who complete in such classes at least 60% of the courses taken at this college in fulfillment of A.A./A.S. degree).

c. Veterans of the U.S. Armed Forces with one or more years of active service.

d. Persons excused for medical reasons. Approved medical waiver must be filed in the Office of Admissions & Records.

Students wishing to request a waiver of this requirement for any reason not specifically provided for above, may petition for consideration through regularly established college procedures. Inquiries should be directed to the Office of Admissions and Records.

5. Additional Requirements

Of the following four areas, a., b., c., d., 12 units are required. One area may be satisfied by the major. If so, the 12 units would be selected from the remaining three areas with at least 3 units from each. (Students majoring in Liberal Studies may elect to have area a., b., or c., satisfied provided they complete at least six units in the area in fulfilling their major.)

a. Natural Science (at least 3 units)**PHYSICAL SCIENCE**

Astronomy 100, 101

Chemistry 100, 192, 210, 220, 224, 225, 231, 232, 250, 410, 420

Electronics Technology 100, 110

Geography 100

Geology 100, 101, 210

Humanities 127-128*

Manufacturing and Industrial Technology 100

Meteorology 100

Oceanography 100, 101

Physical Science 100, 675, 676

Physics 100, 210, 220, 250, 260, 270

*When both HUM. 127 and 128 are taken, three units will be allowed to fulfill the Physical Science requirement and three units will be allowed toward the Humanities requirement.

LIFE SCIENCE

Biology 100, 102, 110, 111, 125, 130, 140, 145, 150, 160, 180, 184, 200, 210, 220, 230, 240, 250, 260, 265, 266, 666, 675

Consumer Arts and Science 310

Horticulture 311, 312, 320, 340

Paleontology 110

Majors fulfilling Area a.: Chemistry, Dental Assisting, Geological Sciences, Horticulture, Life Sciences, Nursing, Physical Science, Physics.

b. Social Science (at least 3 units)

Anthropology 105, 110, 180, 370

Business 100, 101, 102

Economics 100, 102

Ethnic Studies 101, 102, 150, 151, 152, 160, 261, 262, 290, 425, 430, 440

Geography 110

History 100, 101, 102, 103, 110, 201, 202, 242, 260, 270, 310, 315, 350, 360, 810

Political Science 100, 110, 130, 150, 170, 200, 205, 210, 212, 215, 220, 250, 255, 260, 310, 415, 520

Psychology 100, 105, 108, 110, 200, 201, 300, 330, 410, 675

Social Science 220, 221

Sociology 100, 105, 110, 141, 200, 300, 340, 391

Majors fulfilling Area b.: Ethnic Studies, Social Science.

c. Humanities (at least 3 units)

Architecture 100

Art 100, 101, 102, 103, 105, 141, 350

Chinese 111, 112, 121, 122, 131, 132

English 110, 120, 130, 140

Ethnic Studies 288, 350, 351, 585

Film 451, 452

French 110, 111, 112, 115, 116, 117, 120, 121, 122, 130, 131, 132, 140, 161, 162

German 110, 111, 112, 120, 121, 122, 130, 131, 132, 140

Humanities 101, 102, 111, 112, 113, 114, 125, 127, 128, 131, 133, 136, 140, 675, 676

Italian 111, 112

Japanese 110, 111, 112, 120, 121, 122

Latin 111, 112

Literature 101, 105, 111, 113, 115, 143, 151, 153, 201, 202, 231, 232, 251, 301, 302, 430

Music 100, 202, 240, 250, 275

Philosophy 100, 160, 244, 320, 350

Spanish 110, 111, 112, 120, 121, 122, 130,
131, 132, 140, 161, 162, 251
Speech 111, 112

Majors fulfilling Area c.: Art, English,
French, German, Humanities, Music,
Spanish, Speech.

**d. Career Exploration and Self Development
(at least 3 units)**

Administration of Justice 100
Aeronautics 130
Architecture 666
Biology 666
Broadcast and Electronic Media 110, 250
Building Inspection Technology 700
Business 201
Business DOS, Macintosh, or Windows
Applications series
Career and Life Planning 101, 102, 103,
112, 133, 137, 138, 140, 141, 401, 402,
404, 406, 410, 430
Computer and Information Science 110
Cooperative Education 641, 645
Culinary Apprenticeship 701
Drafting Technology 120
Education 100, 101
Electrical Apprenticeship 701
Engineering 666
Environmental Technology 100
Film 461
Fire Technology 715
Hazardous Materials Apprenticeship 701
Horticulture 411
Journalism 110
Lithographer Apprenticeship 701
Machine Tool Technology 750
Management 100
Medical Assisting 100
Military Science 1a
Nursing 666
Plumbing 701 or 741
Real Estate 100
Sheet Metal Apprenticeship 701
Social Science 301
Sprinkler Fitter Apprenticeship 701
Speech 100, 120, 150
Welding Technology 300

Majors fulfilling Area d.: Accounting,
Administration of Justice, Aeronautics,
Alcohol and Other Drug Studies, Archi-
tecture, Broadcasting Arts, Building In-
spection Technology, Business, Business
Information Processing, Computer & In-
formation Science, Cosmetology, Culi-
nary Services, Drafting, Electrical Tech-
nology, Electronics Technology, Engi-
neering, Environmental Technology,
Filmmaking, Fire Sprinkler Technology,
Fire Technology, Graphic Communica-
tions, Hazardous Materials Specialist,
Journalism, Life Sciences: Biotechnol-
ogy, Machine Tool Technology, Manage-

ment, Mathematics, Medical Assisting,
Plumbing and Pipe Fitting, Real Estate,
Refrigeration and Air Conditioning Me-
chanics, Sheet Metal Services Technol-
ogy, Sheet Metal Technology, Technical
Art/Graphics, Welding Technology.

e. Electives

All courses not included in the major
requirements or specified above in the
General Education requirements are con-
sidered electives, with the exception of
those courses listed in this catalog with
the notation "units do not apply toward
AA/AS degree."

Occupational Programs

Specialized occupational programs are of-
fered in more than fifty occupational fields
(see tabular listing on page 58) for students
planning to prepare for gainful employment.
All occupational programs are carefully
developed by advisory committees com-
posed of college staff and selected represen-
tatives from the business and industrial
community.

These programs are designed to develop
personal and technical competencies neces-
sary for successful employment and job
advancement.

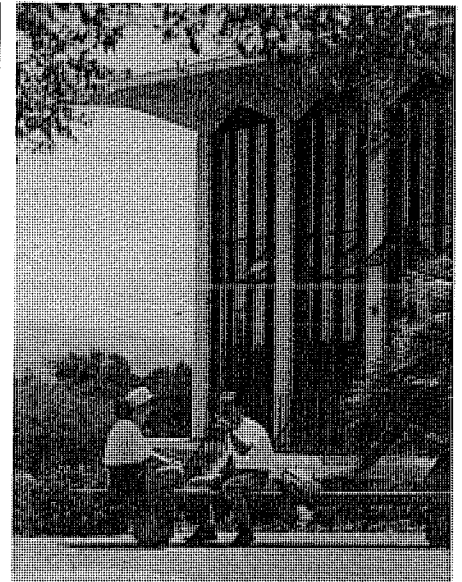
Two-Year Occupational Programs – AA or AS Degree

Most two-year programs lead to an Associ-
ate in Arts or Associate in Science degree.
Many of the units earned in occupational
programs are accepted by four-year colleges
as meeting certain requirements.

Certificate Programs

Certificates are awarded upon successful
completion of selected occupational pro-
grams and upon application to the Office of
Admissions and Records. Some certificates
require less than two years of full-time
study. To be eligible for a certificate, a stu-
dent must pass all required certificate
courses with a grade of C or higher, unless
specified otherwise (see specific program) a
maximum of 6 units from courses in which
the student has elected a Credit/No Credit
option may be applied toward a certificate.
At least 50% of the units required for a cer-
tificate must be taken at College of San
Mateo.

Certificate requirements for an individual
student are those listed in the College of San



*Students enjoy good conversation and a
great view on the CSM campus.*

Mateo Catalog of the year in which the stu-
dent begins studies at CSM. Those require-
ments may be followed throughout the
student's course of study. However, if a
break in attendance occurs before the certifi-
cate is earned, the certificate requirements
shall become those listed in the College
Catalog which is current at the time studies
are resumed.

Certificates may be earned through day or
evening part-time or full-time enrollment.

Program Planning

Students enrolling at College of San Mateo
should plan a program of studies which will
meet their education goals. Their objective
may be to transfer to a four-year college or
university.

Depending on the program they follow, they
may also receive an Associate in Arts or Asso-
ciate in Science degree from College of San
Mateo. On the other hand, their objective may
be to enter an occupational field after becom-
ing qualified through one of numerous Associ-
ate in Arts/Science degree programs or through
one of several certificate programs.

If in the course of their enrollment at College
of San Mateo students find it advisable to
change their program of studies, they may do
so, in conference with a counselor/advisor.
However, students should be aware that any
changes may result in extending the time nec-
essary to fulfill all requirements.

Students have the responsibility for planning
their programs.

A.A./A.S. Degree, Transfer, and Certificate Programs at CSM

Certificate Transfer AA/AS Degree	Certificate Transfer AA/AS Degree	Certificate Transfer AA/AS Degree
ACCOUNTING	DRAFTING TECHNOLOGY	MANAGEMENT
ADMINISTRATION OF JUSTICE ..	Computer Aided Drafting	Business Management
AERONAUTICS	ECONOMICS	Marketing Management
Aircraft Maintenance Technology ..	EDUCATION	Small Business Management
Airframe & Power Plant Technology ..	ELECTRICAL TECHNOLOGY	MANUFACTURING &
Commercial Pilot	ECONOMICS	INDUSTRIAL TECHNOLOGY ...
Pilot Technology	ELECTRONICS TECHNOLOGY	MARINE BIOLOGY
AGRICULTURE	Avionics Systems Maintenance	MASS COMMUNICATIONS
ALCOHOL AND OTHER DRUG	ENGINEERING	MATHEMATICS
STUDIES	ENGINEERING TECHNOLOGY	MEDICAL ASSISTING
ANIMAL SCIENCE	Electronics	Medical Transcription
ANTHROPOLOGY	General	METEOROLOGY
ARCHAEOLOGY	ENGLISH	MOLECULAR & CELL BIOLOGY .
ARCHITECTURE	ENTOMOLOGY	MUSIC
Landscape Architecture	ENVIRONMENTAL TECHNOLOGY .	NURSING (Registered)
ART	ENVIRONMENTAL STUDIES	NUTRITION
Art History	ETHNIC STUDIES	OCEANOGRAPHY
Commercial	FILMMAKING	OPTOMETRY
Commercial, Illustration	FIRE SPRINKLER TECHNOLOGY..	(Pre-Optometry)
Fine Arts	FIRE TECHNOLOGY	PALEONTOLOGY
Drawing	FORESTRY	PHARMACOLOGY (Pre-Pharmacy)
General Studio Art	FRENCH	PHILOSOPHY
Painting	GENETICS	PHYSICAL EDUCATION
Printmaking	GEOGRAPHY	PHYSICAL SCIENCE
Photography	GEOLOGICAL SCIENCES	PHYSICS
ASTROPHYSICS	GERMAN	PHYSIOLOGY
BACTERIOLOGY	GRAPHIC COMMUNICATIONS:	PLUMBING & PIPE FITTING
BIOCHEMISTRY	PREPRESS	POLITICAL ECONOMY
BIOLOGICAL SCIENCES	GRAPHIC COMMUNICATIONS:	POLITICAL SCIENCE
BIOTECHNOLOGY MANAGEMENT	PRESS	PSYCHOLOGY
BOTANY	HAZARDOUS MATERIALS	PUBLIC HEALTH
BROADCAST AND	SPECIALIST	PUBLIC ADMINISTRATION
ELECTRONIC MEDIA	HEALTH SCIENCE	REAL ESTATE
Broadcasting Engineering	HISTORY	RECREATION EDUCATION
Radio Broadcasting-Operations	HORTICULTURE	REFRIGERATION & AIR CONDI-
TV Broadcasting-General	Environmental	TIONING MECHANICS
TV Broadcasting-Operations	Landscape/Construction Design ..	RELIGIOUS STUDIES
BUILDING INSPECTION	Landscape Management	RHETORIC & COMMUNICATION .
TECHNOLOGY	Nursery Management	SHEET METAL SERVICE
BUSINESS	Floristry	TECHNOLOGY
Business Administration	HUMANITIES	SHEET METAL TECHNOLOGY ..
Business Information Processing ..	INDUSTRIAL TECHNOLOGY	SOCIAL SCIENCE
Escrow	INTERNATIONAL RELATIONS ..	SOCIAL WELFARE
Merchandising	JAPANESE	SOCIOLOGY
CHEMISTRY	JOURNALISM	SPANISH
CHINESE	ITALIAN	SPEECH
CHIROPRACTIC MEDICINE	LEGAL STUDIES	TECHNICAL ART/GRAPHICS
COMPUTER & INFORMATION	LIBERAL STUDIES	Industrial Design
SCIENCE	LIFE SCIENCES	VETERINARY MEDICINE
Computer Support Specialist	Biological	WELDING TECHNOLOGY
CONSERVATION & NATURAL	Biotechnology	Welding Technician
RESOURCE STUDIES	General	General Welder
CONSTRUCTION MANAGEMENT .	Medical	Manufacturing Technology
COSMETOLOGY	Pre-Nursing	WILDLIFE & RANGE
CRIMINAL JUSTICE	MACHINE TOOL TECHNOLOGY .	MANAGEMENT
CULINARY SERVICES	Computer Numerical Control	WOMEN'S STUDIES
DENTAL ASSISTING		ZOOLOGY
DENTISTRY (Pre-Dental)		
DIETETICS		

Major and Certificate Requirements

Transfer Program Requirements

Students who intend to major in transfer programs listed on the previous page should plan a course at College of San Mateo to meet the general requirements for junior standing, as well as the lower division requirements, of the specific college or university to which they plan to transfer.

See the Transfer Planning and Major Preparation Recommendations sections of this catalog. Students should also consult the catalog of the college or university to which they plan to transfer.

Accounting

Associate in Arts Degree with a major in Accounting; Transfer Program; Certificate Program

Recommended high school preparation: typing, general office procedures, English basic skills.

Career Opportunities: graduates may be employed in entry-level positions in government offices and private companies.

A.A. Degree

Major requirements: ACTG 121, 131, 142; BUS. 129, 201; BUS. 295 or BUSD 461 plus one of the following sets: BUSD 201, 401, and 402 or BUSM 211, 411, and 412 or BUSW 201, 411, and 412. Total: 21 semester units.

Suggested Electives: Bus. 101, 115; BUSD 401; ECON 100, 102.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

Transfer Program

See the Transfer Planning and Major Preparation Recommendations sections of this catalog. Students should also consult the catalog of the college or university to which they plan to transfer.

Certificate Program

Certificate requirements: completion of A.A. degree major requirements listed above with a grade of C or higher in each course.

Administration of Justice

Associate in Science Degree with a major in Administration of Justice; Transfer Program; Certificate Program

A.S. Degree

Major requirements: ADMJ 100, 102, 104, 106, 108, 120; ENGL 825; 3 elective units. Total: 24 semester units.

Suggested electives: ADMJ 165 is highly recommended for transfer students; ADMJ 125 and 153 are also desirable.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Transfer Program

See the Transfer Planning and Major Preparation Recommendations sections of this catalog. Students should also consult the catalog of the college or university to which they plan to transfer.

Certificate Program

This program is designed for pre-service students and consists of the following pre-service courses.

Certificate requirements: ADMJ 100, 102, 104, 106, 108, 120, 153 with a grade of C or higher in each course. Total: 21 semester units.

POST (Peace Officers Standards and Training Commission) Certification

Upon completion with a grade of C or higher of each of the following special courses, students will receive POST certification of completion. Elective credit may be applied to the A.S. degree.

Post Certification Courses:

- ADMJ 755 Advanced Officers Course, 1-2.5 units;
- ADMJ 770 Advanced Dispatcher/Clerk, 1-2.5 units;
- ADMJ 771 Reserve Officers Basic Training Module A, 3 units;
- ADMJ 772 Reserve Officers Basic Training Module B, 5 units;
- ADMJ 773 Reserve Officers Basic Training Module C, 4 units.

Aeronautics

Transfer Program

Transfer programs are available for four-year degree curricula at San Jose and San Francisco State Universities and other institutions which provide Aeronautics or Design and Industry majors.

See the Transfer Planning and Major Preparation Recommendations sections of this catalog. Students should also consult the catalog of the college or university to which they plan to transfer.

Aeronautics: Airframe and Powerplant Technology

Associate in Science Degree with a major in Airframe and Powerplant Technology; Certificate Programs

Recommended high school preparation: elementary algebra, intermediate algebra, plane geometry, drafting, general shop, physics, or physical sciences. Students should check course descriptions and prerequisites and discuss recommended sequence with counselors/advisors.

Career Opportunities: students who complete courses and obtain a Federal Aviation Certificate and Associate in Science degree in Airframe and Powerplant Technology have excellent opportunities for steady employment by airlines as well as other aircraft operations.

Because of Federal Aviation Administration (F.A.A.) regulations regarding attendance and performance, the following special rules apply to all maintenance courses (AERO 300 through AERO 370):

1. Any time missed during one of these courses must be made up before the end of the eight-week course. If more than 18 hours are missed in any one course, the student will receive a "W," and the course must be repeated before he/she can receive credit for the course. Advancement to other courses is allowed if the student has completed AERO 300/301 and 310/311 with a grade of C or higher.

2. Less than 70% (letter grade of C) will be considered a failing grade. A final examination will be given at the end of each eight-week course. Failure to achieve a 70% on this final examination will require that the course be repeated.

A.S. Degree**Option 1**

Major requirements: AERO 300, 301, 310, 311; AERO 330, 331, 350, 351, 370, 371; AERO 320, 321, 340, 341, 360, 361; Total: 56 semester units.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

If a student has an airframe or powerplant certificate issued by the F.A.A., upon application to the Aeronautics Department, 7 units of credit may be granted and the A.S. Degree may be completed under Option 2 or 3.

Option 2 (for those students who already have an airframe certificate issued by the F.A.A.)

Major requirements: AERO 320, 321, 340, 341, 360, 361 plus 6 units selected from DRAF 120; ENVY 100; ELEC 110, 280; MANU 100; PHYS 100; WELD 300. Total: 27 semester units plus 7 units credit granted for airframe certificate issued by the F.A.A..

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Option 3 (for those students who already have a powerplant certificate issued by the F.A.A.)

Major requirements: AERO 330, 331, 350, 351, 370, 371 plus 6 units selected from DRAF 120; ENVY 100; ELEC 110, 280; MANU 100; PHYS 100; WELD 300. Total: 27 semester units plus 7 units credit granted for powerplant certificate issued by the F.A.A..

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Certificate Program

Students may apply for a Certificate in Airframe and Powerplant Technology upon completion of one of the following options:

Option 1

Certificate requirements: AERO 300, 301, 310, 311, 320, 321, 330, 331, 340, 341, 350, 351, 360, 361, 370, 371 with a grade of C or higher in each course. Total: 56 semester units.

If a student has an airframe or powerplant certificate issued by the F.A.A., upon application to the Aeronautics Department, 7 units of credit may be granted and the Cer-

tificate requirements may be completed under Option 2 or 3.

Option 2 (for those students who already have an airframe certificate issued by the F.A.A.)

Certificate requirements: AERO 320, 321, 340, 341, 360, 361 with a grade of C or higher in each course. Total 21 semester units plus 7 units credit granted for airframe certificate issued by the F.A.A..

Option 3 (for those students who already have a powerplant certificate issued by the F.A.A.)

Certificate requirements: AERO 330, 331, 350, 351, 370, 371 with a grade of C or higher in each course. Total 21 semester units plus 7 units credit granted for powerplant certificate issued by the F.A.A..

Aeronautics: Airframe Technology**Certificate Program**

Certificate requirements: AERO 300, 301, 310, 311; AERO 330, 331, 350, 351, 370, 371 with a grade of C or higher in each course. Total: 35 semester units.

Aeronautics: Powerplant Technology**Certificate Program**

Certificate requirements: AERO 300, 301, 310, 311; AERO 320, 321, 340, 341, 360, 361 with a grade of C or higher in each course. Total: 35 semester units.

Aeronautics: Aircraft Maintenance Technology

Associate in Science Degree with a major in Aircraft Maintenance Technology

This major is designed especially for students who already possess both the airframe and powerplant certificates issued by the F.A.A. Upon application to the Aeronautics Department, students may receive 14 units of credit toward an Associate in Science degree in Aircraft Maintenance Technology. Applicants must have completed 12 units at College of San Mateo with a 2.5 G.P.A. and be enrolled at the College at the time of application.

Major requirements: 18 units selected from the following courses: BUSD 101 or BUSM 211; DRAF 120; ENVY 100; ELEC 110 or 242/243 or 248/249, 280; PHYS 100 or MANU 100; WELD 300; COOP 641 (3

units). Total: 18 semester units plus 13 units granted for airframe and powerplant certificates issued by the F.A.A..

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Aeronautics: Avionics

(See Electronics Technology: Avionics)

Aeronautics: Commercial Pilot

Associate in Science Degree with a major in Commercial Pilot; Certificate Program

Recommended high school preparation: intermediate algebra, plane geometry, drafting, trigonometry, general shop, and physics or physical sciences or business administration. Students should check course descriptions and prerequisites, and discuss recommended sequence with counselors/advisors.

Designed for the student who plans to become a commercial pilot, flight instructor, airline pilot or fixed-base operator, this program may also be used as basic training for aviation business and entrance into air traffic control employment.

A.S. Degree

Major requirements: AERO 100, 101, 102, 107, 115, 126; METE 100. Total: 21 semester units.

Suggested electives: AERO 108, 666; BUSD 101, 201; PHYS 100 OR 210.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Certificate Program

Certificate requirements: completion of A.S. degree major requirements listed above, with a grade of C or higher in each course.

Aeronautics: Pilot Technology

Associate in Science with a major in Pilot Technology

This major is designed especially for students who already possess a commercial pilot, instrument, and multi-engine license or an airline transport pilot license. Upon application to the Aeronautics Department, students may receive 12 units of credit toward an Associate in Science degree in Pilot Technology. Applicants must have completed 12 units at College of San Mateo with a 2.5 G.P.A. and be enrolled at the College at the time of application.

Major requirements: 12 units selected from the following courses: AERO 108, 115, 666; BUS. 100, 101; CIS 110; ELEC 110; MANU 100; METE 100; PHYS 100. Total: 12 semester units plus 12 units granted for Commercial pilot, instrument, and multi-engine license or airline transport pilot license.

Alcohol and Other Drug Studies

Associate in Arts Degree with a major in Alcohol and Other Drug Studies; Transfer Program; Certificate Program

Major requirements: SOSC 301, 302, 303, 304, 307, 308, 315, 316; 6 units selected from PSYC 100, 410, SOCI 100, with a grade of C or higher in each course. Total: 30 semester units.

Transfer Program

See the Transfer Planning and Major Preparation Recommendations sections of this catalog. Students should also consult the catalog of the college or university to which they plan to transfer.

Certificate Program

This certificate program conforms to the Proposed Guidelines for Alcohol and Other Drug Studies Programs within Higher Education prepared for the California State Department of Alcohol and Drug Programs and meets the accreditation standards set forth by the California Association for Alcohol/Drug Educators (CAADE).

Certificate requirements: completion of A.A. degree major requirements listed above with a grade of C or higher in each course. Total: 30 semester units.

Apprenticeship Training

Classes of related training are offered for apprentices in certain trades as indicated in the section on curriculum for Apprenticeship Training. These classes follow the course outlined by the appropriate Joint Apprenticeship Committee and the Division of Apprenticeship Standards of the State of California.

Archaeology

(See Anthropology courses.)

Architecture

Associate in Science Degree with a major in Architecture; Transfer Program

Recommended high school preparation: academic program including mathematics (4 years), science (4 years), English (4 years), art (2 years), mechanical drawing (1 semester). Students should check course descriptions and prerequisites, and discuss recommended sequence with an architectural counselor/advisor.

A.S. Degree

Major requirements: ARCH 100, 120, 130, 140, 145, 210, 220, 230, 240. Total: 26 semester units.

Suggested Electives: ARCH 112; CIS 240/241; MATH 241, 242 and PHYS 210, 220 or MATH 251, 252, 253 and PHYS 250, 260, 270.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Transfer Program

See the Transfer Planning and Major Preparation Recommendations sections of this catalog. Students should also consult the catalog of the college or university to which they plan to transfer.

Architecture: Architectural Engineering, Landscape, City and Regional Planning

Transfer Program

See the Transfer Planning and Major Preparation Recommendations sections of this catalog. Students should also consult the catalog of the college or university to which they plan to transfer.

Art

Art: Art History

Transfer Program

See the Transfer Planning and Major Preparation Recommendations sections of this catalog. Students should also consult the catalog of the college or university to which they plan to transfer.

Art: Commercial

Associate in Arts Degree with a major in Commercial Art

Recommended high school preparation: design, drawing, painting.

A.A. Degree

Major requirements: ART 201, 202, 206, 207, 214, 301, 328; TA&G 200. Total: 23 semester units.

Suggested electives: ART 223, 231, 241, 305; BUS. 175; CRER 410; SPCH 100.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

Art: Commercial, Illustration

Career opportunities: employment in advertising, manufacturing, industrial design, public relations, or communications. Experienced artists frequently specialize in a particular product or field such as fashion, industrial art, advertising, or story illustration.

Transfer Program

See the Transfer Planning and Major Preparation Recommendations sections of this catalog. Students should also consult the catalog of the college or university to which they plan to transfer.

Art: Fine Arts

Associate in Arts Degree with a major in Fine Arts: Drawing or General Studio Art or Painting or Printmaking.

A.A. Degree

Major Requirements (for all options): ART 101 or 102, 103, 201, 202, 206, 207, 214, 301.

Option 1: Drawing

Major requirements: as listed above plus a repeat of ART 206 and 207; ART 223. Total: 33 semester units.

Suggested electives: ART 241, 328, 351, 405.

Option 2: General Studio Art

Major requirements: as listed above plus ART 223, 237 or 241, 405. Total: 33 semester units.

Suggested electives: ART 321, 351.

Option 3: Painting

Major requirements: as listed above plus ART 223 (3 units), 224 (6 units). Total: 33 semester units.

Suggested electives: ART 231, 232, 241, 351, 405. Repeat of ART 206 or 207.

Option 4: Printmaking

Major requirements: as listed above plus 9 units selected from the following courses: ART 237, 238, 241, 242. Total: 33 semester units.

Suggested electives: ART 223, 351, 405. Repeat of ART 206 or 207.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

Transfer Program

See the Transfer Planning and Major Preparation Recommendations sections of this catalog. Students should also consult the catalog of the college or university to which they plan to transfer.

Art: Photography

Associate in Arts Degree with a major in Photography

Major requirements: ART 350, 351, 352, 354, 360, 353 or 355. Total: 18 semester units.

Suggested electives: ART 101, 201, 214, 237, 301; FILM 461; TA&G 351, 352.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

Broadcast and Electronic Media

Career opportunities: Radio and television positions are available for sound and video-control technicians and engineers. Students in the Broadcast and Electronic Media programs not only receive instruction in theoretical aspects of the field but also have additional, important opportunities to work in and with live facilities. Through actual on-the-air broadcasts from the campus stations, KCSM-FM and KCSM-TV, and cablecasts from SAMNET, students receive practical experience that provides excellent preparation for immediate employment or for transfer to a four-year program.

Transfer Program

See the Transfer Planning and Major Preparation Recommendations sections of this catalog. Students should also consult the catalog of the college or university to which they plan to transfer.

The following courses are suggested electives for all Broadcasting Arts majors: ART 350; BUS. 101, 175; FILM 451, 452, 461; ELEC 110, 200, 250, 260, 302; JOUR 110, 120; SPCH 111, 120.

Broadcasting Arts: Broadcast Engineering

Associate in Arts Degree with a major in Broadcast Engineering; Certificate Program

A.A. Degree

Major requirements: ELEC 200; BCST 110, 131, 231, 244, 301, 302; CIS 110. Total: 26 semester units.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

Certificate Program

Certificate requirements: completion of A.A. degree major requirements listed above with a grade of C or higher in each course. Total: 26 semester units.

Broadcasting Arts: Radio Broadcasting, Operations

Associate in Arts Degree with a major in Radio Broadcasting, Operations; Certificate Program

A.A. Degree

Major requirements: BCST 110, 131, 132, 135, 194, 231; BUSD 101 or CIS 160; plus 6 units selected from BCST 115, 195, 244, 250, 301 or ELEC 110 or MUS. 275. Total: 25 semester units.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

Certificate Program

Certificate requirements: completion of A.A. degree major requirements listed above with a grade of C or higher in each course. Total: 25 semester units.

Broadcasting Arts: Television Broadcasting, General

Associate in Arts Degree with a major in Television Broadcasting, General; Certificate Program

A.A. Degree

Major requirements: BCST 110, 131, 194, 231, 232; BUSD 101 or CIS 160; plus 6 units selected from BCST 115, 242, 244,

250 or ART 350 or ELEC 110 or JOUR 120. Total: 23 semester units.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

Certificate Program

Certificate requirements: completion of A.A. degree major requirements listed above with a grade of C or higher in each course. Total: 23 semester units.

Broadcasting Arts: Television Broadcasting, Operations

Associate in Arts Degree with a major in Television Broadcasting, Operations; Certificate Program

A.A. Degree

Major requirements: BCST 110, 131, 194, 231, 232, 242; BUSD 101 or CIS 160; plus 6 units selected from BCST 243, 244, 250, 301 or ELEC 110. Total: 27 semester units.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

Certificate Program

Certificate requirements: completion of A.A. degree major requirements listed above with a grade of C or higher in each course. Total: 27 semester units.

Building Inspection Technology

Associate in Science Degree with a major in Building Inspection; Certificate Program

A.S. Degree

Major requirements: BLDG 700, 710, 720, 730, 740, 750; 3 units selected from BLDG 760 or 780; 3 units selected from ENGL 800 or higher or MGMT 110; 3 units selected from MGMT 120 or 235. Total: 27 semester units.

Suggested electives: BLDG 790; ENVT 100; MANU 100; PHYS 100.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Certificate Program

Certificate requirements: completion of A.S. degree major requirements listed above with a grade of C or higher in each course.

Business Administration

Associate in Arts Degree with a major in Business Administration; Transfer Program

Recommended high school preparation: elementary algebra, intermediate algebra, geometry, trigonometry, foreign language.

A.A. Degree

Option 1

Major requirements: ACTG 121, 131; BUS. 201, 295; ECON 123 or MATH 200. Total: 21 semester units.

Suggested electives: ECON 100, 102.

Option 2

Major requirements: ACTG 100 or 121; BUS. 100, 101, 115, 129, 201; BUS. 295 or CIS 110 or BUSD series (3 units). Total: 19-22 semester units.

Suggested electives: BUS. 131, 150, 170, 180, 401.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

Transfer Program

See the Transfer Planning and Major Preparation Recommendations sections of this catalog. Students should also consult the catalog of the college or university to which they plan to transfer.

Business

Career Programs

The following programs are designed to prepare students for employment in specific careers. They emphasize business skills for immediate employment; general courses provide a background for promotion in chosen occupational areas. Students planning to complete a four-year degree in these areas should consult the catalog of the college or university to which they plan to transfer.

Business: Business Information Processing

Associate in Arts Degree with a major in Business Information Processing; Certificate Programs

Recommended high school preparation: typing, business math, microcomputers, accounting, business English, and office work experience.

Career Opportunities: graduates may be employed in entry-level positions and mid-level office management. Students develop the ability to organize and manage work tasks and information through the use of computer/office technology. These programs offer training in decision-making and administrative duties that are required for promotion.

A.A. Degree

Completion of one of the following options:

Option 1: Microcomputers/Word Processing

Major requirements: BUS. 100, 115, 325, 401; BUSD 101; BUSD or BUSW 111, 112, 311, 312; BUSD 401 or BUSW 411; BUSD 461, 501, 530; BUSD or BUSW 201, 202, 203 or BUSM or BUSW 211, 212, 213. Total: 26.5 semester units.

Option 2: Microcomputers/Data Base and Spreadsheet Functions

Major requirements: ACTG 100, 142; BUS. 100, 115, 129; BUSD 101; BUSD or BUSW 111, 112; BUSD 401, 402, 403 or BUSW 411, 412, 413; BUSD 461, 462, 463, 501, 530; 1 unit selected from BUSD or BUSW 201 or BUSM or BUSW 211. Total: 25.5 semester units.

Option 3: Microcomputer/Network Administration

Major requirements: BUS. 100, 115; BUSD 501 or CIS 150; BUSD 111, 112, 116, 461, 503, 510, 512, 530; BUSW 111, 112; 1 unit selected from BUSD or BUSW 201 or BUSM or BUSW 211; 1 unit selected from BUSD 401 or BUSM or BUSW 411. Total: 23.5-24.5 semester units.

Plus General Education and other requirements for the A.A. degree (see index: General Education).

Certificate Program

Options 1, 2 and 3

Certificate requirements: completion of A.A. degree major requirements listed above with a grade of C or higher in each course.

Business: Escrow

Associate in Arts Degree with a major in Escrow; Certificate Program

The California Escrow Association recommends 27 units of required core courses and 12 units of suggested electives for the A.A.

degree. See a Real Estate Department counselor/advisor for guidance regarding these courses and for information regarding the Escrow Certificate.

A.A. Degree

Major requirements: R.E. 100*, 121, 131, 301*, 303*, 305; BUS. 100; BUS. 115 (or MATH 120 or higher); BUS. 401; plus 12 units selected from the following courses: ACTG 100, 121; BUS. 101, 201; BUS. 315 or BUS. 305 and 307; ECON 100 or 102; PSYC 100; R.E. 110, 141, 143, 210, 235; SPCH 100 or 120. Total: 39 semester units.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

Students who have already earned an A.A. degree at College of San Mateo with a major in Real Estate and wish to qualify for an additional major in Escrow may do so by completing the R.E. 301, 303, 305; BUS. 401; and 6 additional units in Real Estate. Consult a Real Estate counselor/advisor for additional information.

Certificate Program

Certificate requirements: R.E. 100*, 121, 131, 301*, 303, 305 plus 6 units selected from the following suggested electives (as recommended by California Escrow Association): ACTG 100 or 121; BUS. 101, 115 or 810, 401; BUS. 315 or BUS. 305 and 307; COOP 641**; R.E. 110, 141 or 143, 200, 210, 230 with a grade of C or higher in each course. Total: 24 units.

If the Escrow Certificate is to be earned following the College of San Mateo Real Estate Certificate, the 6 units of selected electives must be taken from the category listed above, excluding any that have been utilized to earn the Real Estate Certificate.

*At the recommendation of a Real Estate counselor/advisor and with the approval of the instructor of Real Estate 303, Real Estate 301 may be waived; or at the recommendation of a counselor/advisor alone, Real Estate 100 may be waived, provided equivalent units of the suggested electives are completed.

**Consult with a Real Estate counselor/advisor requirements for Work Experience Program.

CSM's Escrow Certificate Program has been approved for official certification by CEA (California Escrow Association). Check with the Real Estate Department Counselor for further details.

Business: Merchandising (General)

Certificate Program

Certificate requirements: BUS. 100, 101, 115, 170, 175, 180, 641 (6 units) with a grade of C or higher in each course. Total: 24 semester units.

Business: Merchandising (Management)

A.A. Degree with a major in Merchandising (Management); Certificate Program

A.A. Degree

Major requirements: BUS. 100, 101, 115, 170, 175, 180, 641 (6 units); ACTG 100 or 121. Total: 27-29 semester units.

Plus General Education and other requirements for the A.A. degree, (see index: General Education).

Certificate Program

Certificate requirements: completion of A.A. degree major requirements listed above, with a grade of C or higher in each course.

Chemistry

Associate in Science Degree with a major in Chemistry and Transfer Program

Major requirements: CHEM 210, 220, 231, 250. Total: 19 semester units.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Transfer Program

See the Transfer Planning and Major Preparation Recommendations sections of this catalog. Students should also consult the catalog of the college or university to which they plan to transfer.

Computer and Information Science

Associate in Science Degree with a major in Computer and Information Science; Transfer Program; Certificate Program in Computer Support Specialist

Recommended preparation: for all of the course work described in the CIS program, fluency in the English language and keyboarding skills are essential. Testing for proficiency in the reading and writing of

English is done regularly through the testing facilities of CSM Student Services. Students who wish to be tested should contact the Testing Office in Room 1-130. Keyboarding skills may be improved in the Business Skills Lab.

Job requirements vary among companies, and students' course selection for the A.S. degree in CIS or the Computer Support Specialist Certificate should be guided by these requirements. Therefore, it is important for students to check these requirements with companies for which they plan to work. For this, the Career Center and the Cooperative Education Office may be able to help.

A.S. Degree

In order to receive an A.S. degree in Computer and Information Science, students must complete the recommended courses for the transfer program or the certificate requirements listed below for the Computer Support Specialist Program (any option) plus the General Education and other requirements for the A.S. degree (see Index: General Education).

Transfer Program

Required Courses: CIS 250/251, 252/253, 290/291; 6 (or more) units selected from CIS courses numbered higher than 110 (CIS 272/273 is strongly recommended); MATH 251, 252; ENGL 100. Total: 31 semester units.

Suggested Electives (Strongly Recommended for Computer Engineering Majors): MATH 253; PHYS 250, 260.

Students should also consult the catalog of the college or university to which they plan to transfer.

Certificate Program (Computer Support Specialist)

This program prepares graduates to support microcomputer systems and end-users in numerous businesses and industries. Students may choose to concentrate in network support, end-user support, or applications development. The program emphasizes developing computer professionals who are technically competent and can work well with others and accommodates those who want to enhance their computer skills as well as those new to computers.

Major requirements (for all options): CIS 110, 115/116, 150; ELEC 110, 215; ENGL 100; MATH 120 or 122-123 or higher math class; CIS 240/241 or 250/251 or ELEC 310.

Option 1: Network Support

Major requirements: as listed above plus BUSW 111, 112 or CIS 312, 313; 9 units selected from CIS 152, 154, 155, 156 or BUSD 501*, 503, 530 or ELEC 218. Total: 38-40 semester units.

Option 2: End-User Support

Major requirements: as listed above plus BUSW 111, 112 or CIS 312, 313; 4 units selected from CIS 252/253, 360/361; 5 units selected from CIS 160, 170, 171 or BUSD 201*, 202, 203, 311*, 312*, 401, 402, 403, 404, 461*, 462, 463, 466 or BUSW 111*, 112*, 201*, 202, 203, 211*, 212, 213, 311*, 312*, 381, 382, 411*, 412, 413 or TA&G 165, 166, 175, 200. Total: 38-40 semester units.

Option 3: Applications Development

Major requirements: as listed above plus CIS 252/253; 4 units selected from CIS 272/273, 304/305, 308/309. Total: 35-37 semester units.

Option 4: PC Hardware and System Support

Major requirements: as listed above plus BUSD 111, 112; BUSW 111 and 112 or CIS 312 and 313; ELEC 216, 217, 218. Total: 40-42 semester units.

All requirements must be completed with a grade of C or higher in each course. Courses marked with an * may only be taken once to fulfill a requirement for the major.

General interest in computers

For students who do not plan to major in CIS but wish to learn about computers, CIS 100 or CIS 110 are recommended as beginning courses. Those who wish to learn some programming should complete CIS 115/116 and then a programming language.

Cooperative Education

Cooperative Work Experience Education enables students to earn college credit for work and learning done on his/her current job. The job must be major or career related. Cooperative Education involves: *a.* students attending CSM full or part time and working full or part time; or *b.* students working full time one semester and attending CSM the next. These programs allow students to earn additional college credit while learning through an actual job experience. Cooperative Education gives the opportunity to use classroom theory in the job setting. Further information is available in the Cooperative

Education Office, located in the Career Development Center in Building 5, telephone 574-6171.

Cosmetology

Associate in Arts Degree with a Major in Cosmetology; Certificate Program

The Cosmetology Program consists of 1600 hours training in theory and practical skills in all phases of beauty culture. Units are based on hours in attendance.

High school preparation: Completion of tenth grade or equivalent is required by State Law. Students must be 17 years of age to be eligible for State Examination. Note: High school students may enroll in cosmetology training at College of San Mateo in their junior or senior year by contacting their respective schools and the Cosmetology Department.

Admission Requirements: Contact the Cosmetology Department, 574-6363, for application information and forms.

When space is available, students with previous training may be eligible for admission to the Advanced Standing program in Cosmetology within a one-year period of withdrawal from a previous school and upon submission of State Board records to the Cosmetology Department. No student who has completed more than 800 hours of approved training in another school will be admitted to the Advanced Standing program.

A.A. Degree

Major requirements: COSM 712, 722, 732, 742, with a grade of C or higher in each course; BUS. 115. Total: 43 semester units.

Suggested electives: BUS. 101; ACTG 100; PSYC 100; SOCI 100; SPCH 120.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

One-Year Certificate Program

Upon satisfactory completion of 1600 hours (with grades of C or higher), students will be qualified to take the California State Board of Cosmetology examination for licensure as a cosmetologist.

Certificate requirements: COSM 712, 722, 732, 742, all with a grade of C or higher. Total: 40 semester units.

Special Courses in Cosmetology

COSM 750, Brush-up. Refresher course to upgrade skills for students who have satisfactorily completed an approved course of training with a minimum of 1600 hours or for out-of-state cosmetologists in preparation for the California State Board of Cosmetology Examination.

COSM 754, Manicuring. Prerequisite: completion of tenth grade or equivalent is required by State law. Students must be 17 years of age to be eligible for State Examination. Admission to program prior to CSM registration. Completion of 350 hours prepares a student to take the California State Board of Cosmetology Examination in Manicuring and subsequent employment in this field only.

COSM 760, Cosmetology Instruction Preparation. Preparation for California State Board of Cosmetology Instructor examination; 600 hours instructor training plus up to 150 hours, if necessary, to correct deficiencies.

Culinary Services

Associate in Science Degree with a major in Culinary Services; Certificate Program

The courses required for this degree are administered by College of San Mateo in conjunction with the Joint/Unilateral Apprenticeship Committee. Registration is limited to those individuals fulfilling the related instruction requirements of the State of California as an indentured apprentice. For information, contact the Restaurant and Hotel Industry Unilateral Training Committee or the college Apprenticeship Department.

Required preparation: at least 18 years of age; high school diploma or G.E.D.

A.S. Degree

Major requirements: CULN 701, 702, 703, 704, 705, 706, 707. Total: 28 semester units.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Certificate Program

Certificate requirements: completion of A.S. degree major requirements listed above with a grade of C or higher.

Data Processing

(See Computer and Information Science and Business: Business Information Processing)

Dental Assisting

Associate in Science Degree with a Major in Dental Assisting; Certificate Program

Admission Requirements: High school graduate or equivalent.

A.S. Degree

Major requirements: DENT 716, 721, 722, 731, 732, 735, 740, 742, 743, 749, 751, 763; BUS. 115; PSYC 108 or SOCI 100; SPCH 120; COOP 647 (4 units). Total: 38 semester units.

A grade of C or higher is required for all Dental Assisting courses.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Certificate Program

One-Year Certificate

Fall Semester

DENT 716*, 721, 731, 735, 740, 749, 751, 763*; 1.5 units selected from READ 812 or ENGL 830; SPCH 850 for 19.5 semester units.

*DENT 716 or 763 may be taken either Fall or Spring semester.

Spring Semester

DENT 722, 732, 742, 743; COOP 647 (4 units) for 12.5 semester units.

Total: 32 semester units.

All students completing the above required courses with a grade of C or better are eligible to apply to the Office of Admissions and Records for a Certificate in Dental Assisting.

Upon successful completion of the program with a grade of C or higher in all courses required for the certificate, the student is eligible to take the National Certification Examination to become a Certified Dental Assistant, and the California Registration Examination to become a Registered Dental Assistant.

Drafting Technology

Associate in Science Degree with a major in Drafting Technology; Transfer Program; Certificate Program

Recommended high school preparation: elementary algebra and mechanical drawing. Students should check course descriptions and prerequisites and discuss recommended sequence with counselors/advisors.

Career Opportunities: Drafting is common to all manufacturing and construction activities. The draftsman interprets the engineer's ideas, presenting them in the language of manufacturing and construction. Graduates of the Drafting Technology Program have several opportunities available. They may go directly into industry as a draftsman with the potential to be a designer. They also have the option of continuing their education at one of the state colleges in pursuit of a Bachelor's degree in Industrial Technology.

A.S. Degree

Major requirements: DRAF 201,202, 301,302. Total: 28 semester units.

Suggested electives: ELEC 110; MANU 120; PHYS 100.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Transfer Program

See the Transfer Planning and Major Preparation Recommendations sections of this catalog. Students should also consult the catalog of the college or university to which they plan to transfer.

Certificate Program

Certificate requirements: completion of A.S. degree major requirements listed above and DRAF 400; MANU 102 or MATH 130; ELEC 110; MTT 200 or 750; MANU 100 or PHYS 100 or 210, MANU 120 with a grade of C or higher in each course. Total: 45 semester units.

Computer-Aided Drafting (CAD)

Certificate Program

Certificate requirements: 3 units selected from: DRAF 120, 201, TA&G 201, COOP 641 or 645; 9 units selected from DRAF 121, 100 (plus special project), 122, 123; 3 units selected from BUSD 101, 111, 112; CIS 110; 3 units selected from ARCH 120, 140, ELEC 110, 210, 215, 260; ENGR 210; MTT 703; TA&G 165. Total: 18 semester units.

Education

Transfer Program

Students who are planning for a career in teaching at the elementary or secondary level should concentrate on meeting the General Education requirements of the college they plan to attend. The program of courses recommended for a student who plans to teach will, to a considerable degree, depend upon the credential sought and the teacher education college the student plans to attend. However, EDUC 100 should be taken as an introduction to this profession.

See the Transfer Planning and Major Preparation Recommendations sections of this catalog. Students should also consult the catalog of the college or university to which they plan to transfer.

Electrical Technology

Associate in Science Degree with a major in Electrical Technology; Certificate Program.

The courses required for this degree are administered by College of San Mateo in conjunction with the Joint Apprenticeship and Training Committee. Registration is limited to those individuals fulfilling the related instruction requirements of the State of California as an indentured apprentice. For information, contact the San Mateo County J.A.T.C. for the Electrical Construction Industry or the college Apprenticeship Department.

Required preparation: at least 18 years of age; high school diploma or G.E.D.; one semester of college-level algebra with a grade of C or higher.

A.S. Degree

Major requirements: ELEL 701, 702, 703, 704, 705, 706, 707, 708, 709, 710. Total: 30 semester units.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Certificate Program

Certificate requirements: completion of A.S. degree major requirements listed above with a grade of C or higher.

Electronics Technology

Associate in Science Degree with a major in Electronics Technology; Transfer Program; Certificate Program

A.S. Degree (Day)

Major requirements: ELEC 201/202* or 220*; ELEC 210, 260, 275, 280, 302, 310, 320, 330, 360, 362, 370 with a G.P.A. of 2.0 or higher. Total: 39.5-41.5 semester units.

Suggested electives: BUS. 305 or 315; BUSD 101, 111, 112; BUSW 111, 112; CIS 150, 290/291; DRAF 120; ELEC 215, 346, 386; PHYS 100 or 210.

*To meet math requirement, ELEC 230 or 231/232 or MATH 120 or equivalent must be taken prior to or concurrently with ELEC 201/202 or 220. Students planning to transfer should begin with MATH 120 or higher.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

A.S. Degree (Evening)

Major requirements: ELEC 201/202* or 220*; ELEC 210, 260, 275, 280 or 330, 310, 320, 360, 370. Total: 29.5-31.5 semester units.

Suggested electives: BUS. 305, 315; BUSD 101, 111, 112; BUSW 111, 112; CIS 150, 290/291; DRAF 120; ELEC 215, 346, 386; PHYS 100 or 210.

*To meet the math requirement, ELEC 230 or 231/232 or MATH 120 or equivalent must be taken prior to or concurrently with ELEC 201/202 or 220.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

A.S. Degree (Advanced Placement)

Students with extensive background in electronics from military, industrial or other educational institutions who wish to obtain a degree or certificate must complete a minimum of 19 units from the courses listed below, with a G.P.A. of 2.0 or higher and no grade lower than a C. Course substitution/waiver form must be filed with the Office of Admissions and Records to verify experience and/or course qualification.

Major requirements: 19 units selected from ELEC 260, 275, 280, 302, 310, 320, 330, 346, 360, 362, 370; MATH 120 or higher; Cooperative Education (maximum of 4 units). Total: 19 semester units.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Transfer Program

See the Transfer Planning and Major Preparation Recommendations sections of this catalog. Students should also consult the catalog of the college or university to which they plan to transfer.

Certificate Program (Day)

Certificate requirements: completion of A.S. degree major requirements (day) listed above with a G.P.A. of 2.0 or higher and no grade lower than a C.

Certificate Program (Evening)

Certificate requirements: completion of A.S. degree major requirements (evening) with a G.P.A. of 2.0 or higher and no grade lower than a C.

Certificate Program (Advanced Placement)

Certificate requirements: completion of A.S. degree major requirements (advanced placement) with a G.P.A. of 2.0 or higher and no grade lower than a C.

**Electronics Technology:
Avionics Systems Maintenance****A.S. Degree****Option 1:**

Major Requirements: ELEC 220 or 242/243; ELEC 248/249, 340/341, 342/343, 346. Total: 28.5-30.5 semester units.

Suggested electives: ELEC 231, 232.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Option 2 (for those students who already have an airframe and powerplant certificate issued by the F.A.A.)

Major requirements: ELEC 248/249, 340/341, 342/343, 346. Total: 24.5 semester units plus 6 units of credit* granted for airframe and powerplant certificate issued by the F.A.A.

*Upon application to the Electronics Technology Department, students may receive 6 units of credit toward an A.S. Degree in Electronic Technology—Avionics Systems Maintenance. Applicants must have completed 12 units at College of San Mateo with a 2.5 grade point average and be enrolled at the College at the time of application.

Certificate Program

Certificate requirements: completion of A.S. degree major requirements listed above with a grade of C or higher in each course and a G.P.A. of 2.0 or higher.

Engineering

Associate in Science Degree with a major in Engineering; Transfer Program

Recommended high school preparation: mathematics (four years); chemistry (one year); physics (one year); mechanical drawing (one year). Students should check course descriptions and prerequisites, and discuss recommended sequence with counselors/ advisors.

A.S. Degree

Major Requirements: ENGR 210, 230, 260, 270 plus 5 additional units chosen from the following electives: CHEM 220 or 225, 231; CIS 130/131, 240/241, 250/251; ECON 100, 102; ENGR 111, 666; GEOL 210; MATH 200, 270, 275; PHYS 270. Total: 19 semester units.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Transfer Program

The basic Engineering program prepares students for transfer with junior standing to a four-year college or university. Students should refer to the catalog of the college of their choice for special requirements; however, the following core subjects were approved unanimously by the Engineering Liaison Committee of the California Community Colleges, State Colleges and Universities, University of California, and private institutions.

The following courses will satisfy the Engineering Liaison Committee core program requirements: CHEM 224-225; CIS 240/241; ENGL 100; ENGR 210, 230, 260, 270, 666; MATH 251-252-253, 270, 275; PHYS 250-260-270.

See the Transfer Planning and Major Preparation Recommendations sections of this catalog. Students should also consult the catalog of the college or university to which they plan to transfer.

**Engineering Technology:
Electronics**

Associate in Science Degree with a major in Engineering Technology: Electronics; Transfer Program

A.S. Degree

Major requirements: ELEC 200 or 201/202, 210, 250, 260, 300, 302, 310, 350, 360, 362 (evening courses ELEC 710, 720, 730, 740 may be substituted for corresponding day courses: ELEC 200 or 201/202, 250, 300, 350); MATH 241, 242. Total: 40.5-41.5 semester units.

Suggested electives: ENGR 666; CIS 240/241, 250/251; MATH 200; BUS. 301 or 303 or 308.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Transfer Program

See the Transfer Planning and Major Preparation Recommendations sections of this catalog. Students should also consult the catalog of the college or university to which they plan to transfer.

**Engineering Technology:
General**

Associate in Science Degree with a major in Engineering Technology; Transfer Program

Engineering Technology is that part of the engineering field which blends scientific and engineering knowledge with technical skills in research, development and production. The College offers the general education, mathematics, science, engineering, and many of the technical courses for the lower division requirements in Engineering Technology.

A.S. Degree

Major requirements: ENGR 210; MATH 241-242; PSYS 210, 220; 6 elective units selected from area of technology specialization. Total: 26 semester units.

Suggested Electives: ACTG 100; ENGR 666; CIS 250/251; MATH 200; technical courses.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Transfer Program

See the Transfer Planning and Major Preparation Recommendations sections of this catalog. Students should also consult the catalog of the college or university to which they plan to transfer.

English

Associate in Arts Degree with a major in English; Transfer Program

Major requirements: 18 units from English or literature courses. With Language Arts Division approval, certain courses in film, humanities, and foreign languages may be substituted for up to 6 units of English or literature. Total: 18 semester units.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

Transfer Program

See the Transfer Planning and Major Preparation Recommendations sections of this catalog. Students should also consult the catalog of the college or university to which they plan to transfer.

Environmental Technology

Associate in Science Degree with a major in Environmental Technology; Certificate Program

This major prepares students to work with hazardous materials in compliance with governmental regulations and recognized standard industry practices. Emphasis is on practical knowledge and application in the hazardous materials field. All courses in the major must be completed with a grade of C or higher.

A.S. Degree

Major requirements: EHMT or ENVT 100, 110, 130, 150, 200, 230; BIOL 110; CHEM 192 or higher or equivalent; 2 - 4 units of Cooperative Education. Total 31-33 semester units.

Recommended courses for transfer students: CHEM 210, 220.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Certificate Program

Certificate requirements: completion of A.S. degree major requirements listed above with a grade of C or higher in each course.

Ethnic Studies

Associate in Arts Degree with a major in Ethnic Studies; Transfer Program

The multicultural emphasis of this program has attracted many persons currently employed in public school systems, social services and human relations, and professionals whose jobs involve interpersonal situations with multiracial groups.

A.A. Degree

Major requirements: ETHN 101, 102; plus 12 units selected from the following courses: ETHN 150, 151, 152, 160, 261, 262, 288, 290, 350, 351, 425, 430, 440, 585. Total: 18 semester units.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

The Ethnic Studies program is structured for the student who plans to major in the Social Sciences, Social Welfare, Humanities, Ethnic Studies or related areas in either a two-year program or as transfer to a four-year institution. Ethnic Studies courses are transferable as Social Science, Humanities, Electives or Ethnic Studies, depending upon the respective institution. In addition, Ethnic Studies courses allow public school teachers the opportunity to meet California State requirements in ethnic education.

Transfer Program

See the Transfer Planning and Major Preparation Recommendations sections of this catalog. Students should also consult the catalog of the college or university to which they plan to transfer.

Filmmaking

Associate in Arts Degree with a major in Filmmaking; Transfer Program

A.A. Degree

Major requirements: FILM 451, 452, 461, 462 plus at least 6 units selected from FILM 463, 464, 465; ART 201, 301, 350, 351, 352, 353, 354, 355; BUS. 175, 180; ENGL 161, 162. Total: 20 semester units.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

Transfer Program

See the Transfer Planning and Major Preparation Recommendations sections of this catalog. Students should also consult the catalog of the college or university to which they plan to transfer.

Fire Sprinkler Technology

Associate in Science Degree with a major in Fire Sprinkler Technology; Certificate Program

The courses required for this degree are administered by College of San Mateo in conjunction with the Joint Apprenticeship Committee. Registration is limited to those individuals fulfilling the related instruction requirements of the State of California as an indentured apprentice. For information, contact the Sprinkler Fitters J.A.C. or the college Apprenticeship Department.

Required preparation: at least 18 years of age; high school diploma or G.E.D.; one semester of college-level algebra with a grade of C or higher.

A.S. Degree

Major requirements: SPFI 701, 702, 703, 704, 705, 706, 707, 708, 709, 710. Total: 30 semester units.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Certificate Program:

Certificate requirements: completion of A.S. degree major requirements listed above with a grade of C or higher.

Fire Technology

Associate in Science Degree with a major in Fire Technology; Transfer Program; Certificate Program

The Fire Technology program prepares students to meet the high standards necessary in pursuing a career in the fire service. Students who wish to concentrate on meeting the basic requirements for entry-level employment are advised to complete FIRE 783 and FIRE 785. Many fire departments require the completion of these courses for eligibility for employment as a firefighter.

A.S. Degree

Major requirements: FIRE 715*, 718, 720, 730, 745; ENGL 800 or 835; three units selected from FIRE 705, 714, 725, 740; 13-14 units selected from State Fire Marshal certification courses or other Fire Technology courses offered through the College, with a grade of C or higher in all Fire Technology courses. (To select elective courses, obtain assistance from counselor/advisor.) Total: 34-35 semester units.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Transfer Program

It is recommended that the transfer student take the seven core courses; FIRE 783, 785; and concentrate in the area of general education for transfer to a junior standing in a four-year institution.

Certificate Program

Certificate requirements: completion of A.S. degree major requirements listed above with a grade of C or higher in each course.

*In all Fire Technology programs, FIRE 715, Introduction to Fire Technology, may be waived for those students who have three or more years of certified service as professional fire fighters. (A letter verifying service must be filed with the Office of Admissions and Records.) If FIRE 715 is waived, another three units of Fire Technology courses must be substituted. FIRE 785, EHMT or ENVT 100 may be used to satisfy Fire Technology elective requirements.

Floristry

(See Horticulture: Floristry)

Foreign Languages

(See specific headings for majors in French, German and Spanish.)

French

Associate in Arts Degree with a major in French; Transfer Program

A.A. Degree

Major requirements: completion of 18 units of French language courses (excluding the 800 series). Total: 18 semester units.

With Language Arts Division approval, ART 103 and HIST 101 may be accepted as part of the 18 units.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

Transfer Program

See the Transfer Planning and Major Preparation Recommendations sections of this catalog. Students should also consult the catalog of the college or university to which they plan to transfer.

Geological Sciences

Associate in Science Degree with a major in Geological Sciences; Transfer Program

A.S. Degree

Major requirements: CHEM 210, 220; GEOL 210; OCEN 100, 101; PALN 110. Total: 21 semester units.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Transfer Program

See the Transfer Planning and Major Preparation Recommendations sections of this catalog. Students should also consult the catalog of the college or university to which they plan to transfer.

German

Associate in Arts Degree with a major in German; Transfer Program

A.A. Degree

Major requirements: completion of 18 units of German language courses (excluding the 800 series). Total: 18 semester units.

With Language Arts Division approval, HIST 101 may be accepted as part of the 18 units.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

Transfer Program

See the Transfer Planning and Major Preparation Recommendations sections of this catalog. Students should also consult the catalog of the college or university to which they plan to transfer.

Graphic Communications

Associate in Science Degree with a major in Graphic Communications; Certificate Program

The courses required for this degree are administered by College of San Mateo in conjunction with the Lithographer Joint/Unilateral Apprenticeship Committee. Registration is limited to those individuals fulfilling the related instruction requirements of the State of California as an indentured appren-

tice. For information, contact the Graphic Arts Institute of Northern California or the college Apprenticeship Department.

Required preparation: at least 18 years of age; high school diploma or G.E.D.

A.S. Degree

Completion of one of the following options:

Option 1: Prepress

Major requirements: LITH 701, 702, 703, 704, 705, 706, 707, 711, 713, 715, 717, 719. Total: 18 semester units.

Option 2: Press

Major requirements: LITH 701, 702, 703, 704, 705, 721, 722, 723, 724, 725, 726, 727. Total: 18 semester units.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Certificate Programs

Options 1 and 2

Certificate requirements: completion of A.S. degree major requirements listed above with a grade of C or higher.

Hazardous Materials Specialist

Associate in Science Degree with a major in Hazardous Materials Specialist; Certificate Program

The courses required for this degree are administered by College of San Mateo in conjunction with the Joint/Unilateral Apprenticeship and Training Committee. Registration is limited to those individuals fulfilling the related instruction requirements of the State of California as an indentured apprentice. For information, contact the Hazardous Materials U.A.C. the college Apprenticeship Department.

Required preparation: at least 18 years of age; high school diploma or G.E.D.

A.S. Degree

Major requirements: HZMT 701, 702, 703, 704, 705, 706, 707, 708, 709, 710. Total: 20 semester units.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Certificate Program

Certificate requirements: completion of A.S. degree major requirements listed above with a grade of C or higher.

Horticulture

Career Opportunities: The horticulture program provides excellent preparation for immediate employment in the field. Employment opportunities include landscape construction and design, greenhouse nursery production, retail nursery sales, park/golf course management, garden maintenance, interior plantscaping, pest control, and floristry. In addition, the program prepares students for transfer to a four-year institution.

Horticulture: Environmental

Associate in Science Degree with a major in Environmental Horticulture; Certificate Program; Transfer Program.

A.S. Degree

Major Requirements (for all options): HORT 311 or 711; 312 or 712; 315 or both 701 and 702; 327 or 705; three units selected from 325 or 706 or 742; HORT 320 or BIOL 145 or 110.

Option 1: (Landscape Construction/Design)

Major requirements: as listed above plus HORT 340 or 709; 342 or 721. Total: 24-29 semester units.

Option 2: (Nursery Management)

Major requirements: as listed above plus HORT 330 or both 777 and 778; 340 or 709. Total: 24-30 semester units.

Option 3: (Landscape Management)

Major requirements: as listed above plus HORT 330 or both 777 and 778; 342 or 721. Total: 24-29 semester units.

Grade C or higher required in all horticulture courses. Plus General Education and other requirements for the A.S. Degree (see Index: General Education).

Certificate Program**Options 1, 2, and 3**

Certificate requirements: completion of A.S. degree major requirements listed above with a grade of C or higher in each course.

Transfer Program

See the Transfer Planning and Major Preparation Recommendations sections of this catalog. Students should also consult the catalog of the college or university to which they plan to transfer.

Horticulture: Floristry

Associate in Arts Degree with a major in Floristry; Certificate Program; Transfer Program.

A.A. Degree

Major requirements: HORT 325, 411, 413, 414, 415, 417, 419, 420, 421 plus 1.5 units selected from HORT 410, 421 or 690 with a grade of C or higher in each course. Total: 24 semester units.

Certificate Program

Certificate requirements: completion of A.A. degree major requirements listed above with grade of C or higher in each course.

Transfer Program

See the Transfer Planning and Major Preparation Recommendations sections of this catalog. Students should also consult the catalog of the college or university to which they plan to transfer.

Humanities

Associate in Arts Degree with a major in Humanities; Transfer Program

A.A. Degree

Major requirements: HUM. 101 and 102; plus 12 units selected from the following: 3 units selected from HUM. 111, 112, or 114; 3 units selected from HUM. 125, 127, or 128; 3 units selected from ANTH 370 or HUM. 131 or 133; and 3 units selected from HUM. 136 or 140. Total: 18 semester units.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

Transfer Program

See the Transfer Planning and Major Preparation Recommendations sections of this catalog. Students should also consult the catalog of the college or university to which they plan to transfer.

Journalism

Associate in Arts Degree with a major in Journalism; Transfer Program

Major requirements: JOUR 110, 120, 300; 9 units selected from English or literature courses. Total: 18 semester units.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

Transfer Program

See the Transfer Planning and Major Preparation Recommendations sections of this catalog. Students should also consult the catalog of the college or university to which they plan to transfer.

Liberal Studies

Associate in Arts Degree with a major in Liberal Studies; Transfer Program

A.A. Degree

Major requirements: eighteen units selected from courses satisfying the A.A./A.S. Degree requirements for Natural Sciences, Social Science, and Humanities (see Index: General Education), with at least 3 units in each area. Total: 18 semester units.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

Transfer Program

See the Transfer Planning and Major Preparation Recommendations sections of this catalog. Students should also consult the catalog of the college or university to which they plan to transfer.

Life Sciences**Transfer Program**

Recommended high school preparation: biology (1 year); chemistry (1 year); physics (1 year); mathematics (algebra, 2 years; geometry, 1 year; trigonometry, 1 semester).

For those students who wish to major in Biological Science or Medical Science and have little or no high school preparation in one or more of the above subjects, the following courses should be completed prior to attempting courses in the major sequence: BIOL 110; CHEM 192; MATH 110 or other appropriate level of math; PHYS 100.

See the Transfer Planning and Major Preparation Recommendations sections of this catalog. Students should also consult the catalog of the college or university to which they plan to transfer.

Life Sciences: Biological

Associate in Science Degree with a major in Biological Sciences (Botany, Forestry, Marine Biology, Zoology, etc.) and Transfer Program

A.S. Degree

Major requirements: BIOL 210, 220, 230; CHEM 210. Total: 19 semester units.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Transfer Program

See the Transfer Planning and Major Preparation Recommendations sections of this catalog. Students should also consult the catalog of the college or university to which they plan to transfer.

Life Sciences: Biotechnology

Associate in Science Degree with a major in Biotechnology and Transfer Program

A.S. Degree

Recommended high school preparation: High school Biology (1 year); Chemistry (1 year); Physics (1 year); Mathematics (1 year).

For those students who have little or no high school preparation in one or more of the above subjects, the following courses should be completed: BIOL 100, CHEM 100 or 192 and PHYS 100 before pursuing the major.

Major requirements: BIOL 110, 145, 230, 240, 666; CHEM 210/220, 231/232. Total: 37 semester units.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Transfer Program

See the Transfer Planning and Major Preparation Recommendations sections of this catalog. Students should also consult the catalog of the college or university to which they plan to transfer.

Life Sciences: General

Associate in Arts Degree with a major in Life Sciences

For students who wish to receive a general life sciences degree but who do not necessarily plan on transferring to a four-year institution as biology majors. Those who plan on transferring as biology majors in

various areas of life sciences should refer to the transfer programs listed below.

A.A. Degree

Major requirements: 4-5 units selected from BIOL 110, 210, 220, 230; 12-15 units selected from BIOL 102, 110, 111, 125, 130, 140, 145, 150, 160, 180, 184, 200, 210, 220, 230; 3 units from physical science. Total: 19-23 semester units.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

Students are encouraged to group courses as follows to emphasize their major interests and to meet personal or academic needs:

Human Biology: BIOL 110, 125, 130, 160; CHEM 410 or 210.

Marine Biology: BIOL 110, 111, 150, 200; OCEN 100 or GEOL 100.

Natural History: BIOL 110, 111, 150, 200; GEOL 100 or METE 100 or GEOG 100.

Wildlife/Forestry: BIOL 102, 110, 111, 200, 180 or 184; GEOL 100 or METE 100.

Life Sciences: Medical

Associate in Science Degree with a Major in Medical Sciences (Pre-Medical, Pre-Dental, Pre-Veterinarian, Medicine, etc.); Transfer Program

A.S. Degree

Major requirements: BIOL 210, 230; CHEM 210, 220. Total: 19 semester units.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Transfer Program

See the Transfer Planning and Major Preparation Recommendations sections of this catalog. Students should also consult the catalog of the college or university to which they plan to transfer.

Life Sciences: Pre-Nursing

Associate in Science Degree with a major in Pre-Nursing; Transfer Program

A.S. Degree

Major requirements: BIOL 240, 250, 260; CHEM 210-220 or 410-420. Total: 22-24 semester units.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Transfer Program

See the Transfer Planning and Major Preparation Recommendations sections of this catalog. Students should also consult the catalog of the college or university to which they plan to transfer.

Machine Tool Technology

Associate in Science Degree with a major in Machine Tool Technology; Transfer Program; Certificate Program

The Machine Tool Technology major will utilize knowledge and skills in drafting, machining, fabrication, applied mathematics, welding, industrial computer, power systems, and other related subjects. Classes will focus on the applied technology through a combination of theory and laboratory.

Since this major focuses on a wide range of subject material and is less specialized than the single field major, graduates of the program will have a working knowledge in a wide range of manufacturing processes and may be qualified to work in the areas including machinist, engineering prototype, applied design, equipment modification, maintenance and repair, and related industrial activities.

Career Opportunities: The Machine Tool technician is a vital figure in any manufacturing industry. He or she must work from blueprints, understand manufacturing processes, and fabricate necessary parts through the use of lathes, mills, drills, grinding, numerical-control programming and many other processes.

A.S. Degree

Major requirements: MTT 110, 111, 120, 121, 210, 211, 220, 221, 702, 703, 704; DRAF 120; MANU 101, 102; WELD 300. Total: 32 semester units.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Transfer Program

See the Transfer Planning and Major Preparation Recommendations sections of this catalog. Students should also consult the catalog of the college or university to which they plan to transfer.

Certificate Program (Day)

Certificate requirements: completion of A.S. degree major requirements listed above, with a G.P.A. of 2.0 or higher.

Certificate Program (Evening)

This program for the general machinist includes machine tool operations for lathes, mills, drill, cutter design and grinding, and many more related topics. Students are required to supply safety glasses, texts, and basic classroom materials. MTT 750 may be substituted for MTT 200 to fulfill the drafting requirement.

Certificate requirements: MTT 701 or MANU 101; MTT 702, 750, 755, 760; plus six units selected from MTT 703; DRAF 120; ELEC 110; WELD 300, with a G.P.A. of 2.0 or higher. Total: 19 semester units.

**Machine Tool Technology:
Computer Numerical Control
Programming****Certificate Program**

This program includes work designed for upgrade of employed machinists or those with manufacturing experience or training. Instructional units include math, blueprint reading, manual and computer programming, and production problems.

Certificate requirements: MTT 200 or 750 or industrial experience; MTT 701 or MANU 102; MTT 702, 703, 704; 4 additional units in MTT or Cooperative Education, with a G.P.A. of 2.0 or higher. Total: 18-21 semester units.

Recommended Elective: BUSD 101, 111, 112; CIS 115/116.

Management

Associate in Arts Degree with a major in Management; Certificate Program

The program is designed for persons working at the supervisory level or for those interested in supervisory positions. An advisory committee composed of representatives from various types of business and industrial organizations has assisted the College staff in the development of the program.

A.A. Degree

(Management: Business Management)

Major requirements: BUS. 100; MGMT 100, 235; ACTG 100 or 3 units from the BUSD series plus 12 semester units selected

from the following: BUS. 101; BUS. 150 or 701 and 705 and 720; BUS. 170, 180; CIS 110; MGMT 105, 110, 120, 215, 220, 641. Total: 24 semester units.

(Management: Marketing Management)

Major requirements: MGMT 100, 235; BUS. 100, 180 plus 12 semester units selected from the following: BUS. 175; CIS 110; MGMT 105, 110, 120, 215; 1-3 units from the BUSD series. Total: 24 units.

(Management: Small Business Management)

Major requirements: BUS. 100; BUS. 150 or 701, 705, 720; ACTG 100 or 3 units from the BUSD series; MGMT 100 plus 12 units selected from the following: BUS. 101, 180, 201; CIS 110; MGMT 105, 110, 120, 215, 220, 235, 641. Total: 24 semester units.

Plus General Education and other requirements for the A.A. degree, (see index: General Education).

Certificate Program

The Certificate in Management can be earned in Business Management, Small Business Management, and Marketing Management. It will be awarded upon completion of the major requirements listed above with a grade of C or higher in each course.

Mathematics

Associate in Science Degree with a major in Mathematics; Transfer Program

Recommended high school preparation: Four years of high school level mathematics, physics (one year), mechanical drawing (one year), two or more years of a foreign language (German, French, or Russian).

A.S. Degree Program

Major requirements: MATH 231; MATH 251-252-253; 6 to 8 units selected from MATH 200, 268, 270, 275 or CIS 240/241, 250/251. Total: 22-25 semester units.

Plus General Education and other requirements for the A.A./A.S. degree (see Index: General Education).

Transfer Program

See the Transfer Planning and Major Preparation Recommendations sections of this catalog. Students should also consult the catalog of the college or university to which they plan to transfer.

Medical Assisting

Associate in Arts Degree with a major in Medical Assisting; Certificate Program

Recommended high school preparation: written and oral communication skills, typing, biology, psychology, and basic mathematics.

Career Opportunities for persons trained as medical assistants occur primarily in physicians' offices and clinics. Related positions are found in hospitals, insurance companies, medical publishing firms, laboratories, and pharmaceutical firms.

A.A. Degree

Major requirements: ACTG 100; BIOL 130; COOP 641 (Medical 3 units), MEDA 100, 110, 115, 120, 121, 140, 150, 160, 190. Total: 38 semester units.

Plus General Education and other requirements for the A.A./A.S. degree (see Index: General Education).

Certificate

Certificate requirements: completion of A.A. degree major requirements listed above with a grade of C or higher in each course.

**Medical Assisting: Medical
Transcription**

Associate in Arts Degree with a major in Medical Transcription; Certificate Program

A.A. Degree

Major requirements: BIOL 130; BUSD 101, 201, 202, 203, 461; MEDA 110, 115, 140, 141, 160, 190 with a grade of C or higher in each course. Total: 26 semester units.

Plus General Education and other requirements for the A.A./A.S. degree (see Index: General Education).

Certificate

Certificate requirements: completion of A.A. degree major requirements listed above with a grade of C or higher in each course.

Military Science

Military Science is offered to qualified students on a full-time basis at College of San Mateo. Classes and leadership laboratory are conducted at San Jose State University under the supervision of the Professor of Military Science, San Jose State University.

Students may complete the first two years of Army ROTC while enrolled at College of San Mateo and qualify for enrollment in the advanced course (third and fourth year) at degree granting colleges and universities. Completion of ROTC and a baccalaureate degree qualify students for a commission in the United States Army Reserve or Regular Army.

Students may obtain enrollment forms from their counselor/ advisor or the Department of Military Science, San Jose State University (telephone (408/924-2920).

Naval ROTC

College of San Mateo students may enroll in Navy ROTC at the University of California, Berkeley. Interested students should contact the Department of Naval Science, University of California, Berkeley, (telephone 642-3551) for further information.

Music

Associate in Arts Degree with a major in Music; Transfer Program

A.A. Degree

Major requirements: 9 units from MUS. 100, 101, 102, 103, 131, 132, 133, 170; 3 units from MUS. 202, 275; 6 units from MUS. 170, 430, 451, 453, 490; 3 units from MUS. 301, 302, 303, 304, 320, 371, 372, 401, 402, 403. Total: 21 semester units.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

Transfer Program

See the Transfer Planning and Major Preparation Recommendations sections of this catalog. Students should also consult the catalog of the college or university to which they plan to transfer.

Music: Electronic Music

Associate in Arts Degree with a major in Music: Electronic Music; Transfer Program

A.A. Degree

Major requirements: MUS. 290, 291, 293; CIS 110; ELEC 110, 292; 6 units selected from MUS. 100 and 101 or MUS. 101 and 131 or MUS. 102 and 132 or MUS. 103 and 133 or MUS. 104 and 134; 1 unit selected from MUS. 301, 302, 303, or 304; 3 units selected from MUS. 170, 202, 230, 250, or 275. Total: 26 semester units.

Plus General Education and other requirements for the A.A. degree (see catalog index: General Education).

Nursing

Registered Nursing Program

Associate in Science Degree with a major in Nursing; Transfer Program

The College of San Mateo Nursing Program provides students with opportunities for learning at the College, local hospitals, and related health agencies. Clinical practice begins early in the first semester. A graduate of this program is prepared to care for patients in homes, hospitals, clinics, and doctor's offices.

Upon graduation, the candidate receives an Associate in Science degree and is eligible to take the California Registered Nursing examination. The graduate is also eligible to transfer to a four-year nursing program.

Admission Requirements: To be eligible for enrollment in the program, an applicant must:

1. Be eligible for English 100 by completing English 800 or 400 with a grade of C or higher (or by attaining the appropriate skill level indicated by the English placement tests and other measures as needed).
2. Have completed MATH 110 or 112 with a grade of C or higher at one of the SMCCCD colleges or have attained equivalent skill level (as measured by a satisfactory score on Math Placement Test Two in combination with a course equivalent to Mathematics 110 or 112).
3. Have completed one year of high school chemistry with a lab or Chemistry 192 or 410 or equivalent with a grade of C or higher.
4. Have completed Biology 250 or 265 or equivalent with a grade of C or higher.

If there are more applicants than spaces available, the following applicants will be given priority:

1. Applicants who are residents of San Mateo County.
2. Applicants who have completed the admission requirements and the greatest number of the major requirement courses.
3. Applicants with a grade point average (GPA) of 2.5 or higher for all admission and major requirement courses.

A.S. Degree Program

Major requirements: NURS 211, 212, 221, 222, 231, 232, 241, 242; BIOL 240; BIOL 250 and 260 or 265 and 266; PSYC 100, PSYC 200 or 201; SOCI 100 or ANTH 110; SPCH 100 or 120 or 150; ENGL 100. Total: 67 semester units.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Requirements for R.N. Licensing Exam:

1. Graduation from high school or equivalent is required.
2. All admission requirements and major requirements must be completed with a grade of C or higher.
3. If an individual has been convicted of a felony, evidence of rehabilitation will be required before taking the R.N. exam.

Students interested in an LVN upgrade through the ADN plan or 30 Unit Option should call the Nursing Department at 574-6219 for additional information. Students who wish to transfer into the nursing program or challenge nursing courses should also call the Nursing Department.

Transfer Program

See the Transfer Planning and Major Preparation Recommendations sections of this catalog. Students should also consult the catalog of the college or university to which they plan to transfer.

Physical Education

Transfer Program

See the Transfer Planning and Major Preparation Recommendations sections of this catalog. Students should also consult the catalog of the college or university to which they plan to transfer.

Physical Science

Associate in Science Degree with a major in Physical Science; Transfer Program

Recommended high school preparation: elementary algebra, plane geometry, intermediate algebra, trigonometry, chemistry, physics.

A.S. Degree

Major requirements: at least one course in each of the following areas: ASTR 100, 101; CHEM 100, 410, 210; GEOL 100,

210; PHYS 100, 210, 250. Total: 18 semester units.

Suggested Electives: CHEM 231, 250; HUM. 113, 125, 127, 128; CIS 240/241, 250/251; MATH 251, 252, 253; MATH 275; METE 100; PHYS 250, 260, 270; PSCI 100.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Transfer Program

See the Transfer Planning and Major Preparation Recommendations sections of this catalog. Students should also consult the catalog of the college or university to which they plan to transfer.

Physics

Associate in Science Degree with a major in Physics; Transfer Program

A.S. Degree

Major requirements: PHYS 250, 260, 270; plus 6 units from CHEM 210, 220, 224, 225, 231, 232, 250; CIS 240/241, 250/251; MATH 200, 251, 252, 253 and 270, 275. (Note: A student completing both CHEM 210 and CHEM 224, will receive credit for CHEM 210 only; a student completing both CHEM 220 and CHEM 225, will receive credit for CHEM 220 only.) Total: 18 semester units.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Transfer Program

See the Transfer Planning and Major Preparation Recommendations sections of this catalog. Students should also consult the catalog of the college or university to which they plan to transfer.

Plumbing and Pipe Fitting

Associate in Science Degree with a major in Plumbing and Pipe Fitting; Certificate Program

The courses required for this degree are administered by College of San Mateo in conjunction with the Joint Apprenticeship and Training Committee. Registration is limited to those individuals fulfilling the related

instruction requirements of the State of California as an indentured apprentice. For information, contact the Plumbers JATC or the college Apprenticeship Related and Supplemental Training Coordinator.

Required high school preparation: at least 18 years of age, high school graduate or GED, one semester of algebra with a grade of C or higher, and one other semester of high school math with grade of C or higher.

A.S. Degree

Major requirements: PLUM 701, 702, 703, 704, 705, 706, 707, 708, 709, 710. Total: 35 semester units (or previously earned CSM Certificate in Plumbing).

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Certificate Program

Certificate requirements: completion of A.S. degree major requirements listed above with a grade of C or higher.

Real Estate

Associate in Arts Degree with a major in Real Estate; Certificate Program

For a degree or certificate, a grade of C or higher is required in each course.

A.A. Degree

Major requirements: BUS. 100 or MGMT 100; R.E. 100*, 105*, 110, 121, 131, 141, 200. Total: 18-24 semester units.

Suggested electives: ACTG 100 or 121; ARCH 100; BUS. 101, 170, 175, 150, 201, 401; BUS. 305 or 307; CIS 110; ECON 100, 102; PSYC 100.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

Certificate Program

Certificate requirements: R.E. 100*, 105*, 110, 121, 131, 141, 200; 15 units selected from the following: 105 (if not taken to fulfill requirement), 122, 132, 142, 143, 145, 205, 210, 215, 220, 225, 230, 235, 301, 303, 305, 311, 313 with a grade of C or higher in each course. Total: 30-36 semester units.

*R.E. 100 and 105 are not required for persons with real estate broker's or salesperson's license. A photocopy of license must be filed with the Office of Admissions and Records.

Note: The above information supersedes all other published information for Real Estate degree or certificate requirements.

Recreation Education

Transfer Program

See the Transfer Planning and Major Preparation Recommendations sections of this catalog. Students should also consult the catalog of the college or university to which they plan to transfer.

Refrigeration and Air Conditioning Mechanics

Associate in Science Degree with a major in Refrigeration and Air Conditioning Mechanics; Certificate Program

The courses required for this degree are administered by College of San Mateo in conjunction with the Joint Apprenticeship and Training Committee. Registration is limited to those individuals fulfilling the related instruction requirements of the State of California as an indentured apprentice. For information, contact the Plumbers JATC or the college Apprenticeship Related and Supplemental Training Coordinator.

Required high school preparation: at least 18 years of age, high school graduate or GED, one semester of algebra with a grade of C or higher, and one other semester of high school math with a grade of C or higher.

A.S. Degree

Major requirements: PLUM 741, 742, 743, 744, 745, 746, 747, 748, 749, 750. Total: 35 semester units (or previously earned CSM certificate in Refrigeration and Air Conditioning Mechanics).

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Certificate Program

Certificate requirements: completion of A.S. degree major requirements listed above with a grade of C or higher.

Sheet Metal Technology

Associate in Science Degree with a major in Sheet Metal Technology; Certificate Program

The courses required for this degree are administered by College of San Mateo in conjunction with the Joint Apprenticeship Committee. Registration is limited to those individuals fulfilling the related instruction requirements of the State of California as an indentured apprentice. For information, contact the Sheet Metal Workers Joint Apprenticeship Committee or the college Apprenticeship Department.

Required preparation: at least 18 years of age; high school diploma or G.E.D.; one semester of college-level algebra with a grade of C or higher.

A.S. Degree

Major requirements: SHMT 701, 702, 703, 704, 705, 706, 707, 708. Total: 20 semester units.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Certificate Program

Certificate requirements: completion of A.S. degree major requirements listed above with a grade of C or higher.

Sheet Metal Service Technology

Associate in Science Degree with a major in Sheet Metal Service Technology; Certificate Program

The courses required for this degree are administered by College of San Mateo in conjunction with the Joint Apprenticeship Committee. Registration is limited to those individuals fulfilling the related instruction requirements of the State of California as an indentured apprentice. For information, contact the Sheet Metal Workers Joint Apprenticeship Committee or the college Apprenticeship Department.

Required preparation: at least 18 years of age; high school diploma or G.E.D.; one semester of college-level algebra with a grade of C or higher.

A.S. Degree

Major requirements: SHMT 721, 722, 723, 724, 725, 726, 727, 728. Total: 20 semester units.

Social Science

Associate in Arts Degree with a major in Social Science; Transfer Program

Social Science fields are many and varied, and include such areas as Cultural Anthropology, Economics, Ethnic Studies, Geography, History, International Relations, Philosophy, Political Science, Psychology, and Sociology. Students should refer to the catalog of the college of their choice for special requirements.

A.A. Degree

Major requirements: ENGL 195 (recommended that this be taken concurrently with the student's second course in the Social Sciences) plus 18 units selected from at least 3 of the following, with a minimum of 2 courses in one of the following: anthropology; economics (not including ECON 123); ethnic studies (not including ETHN 288, 350, 351, 585); geography (not including GEOG 100); history; political science; psychology (not including PSYC 121); social science (not including SOSC 111); sociology. Total: 19 semester units.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

Transfer Program

See the Transfer Planning and Major Preparation Recommendations sections of this catalog. Students should also consult the catalog of the college or university to which they plan to transfer.

Spanish

Associate in Arts Degree with a major in Spanish; Transfer Program; Departmental Certification

A.A. Degree

Major requirements: completion of 18 units of Spanish language courses (excluding the 800 series). Total: 18 semester units.

With Language Arts Division approval, ANTH 110 may be accepted as part of the 18 units.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

Transfer Program

See the Transfer Planning and Major Preparation Recommendations sections of this catalog. Students should also consult the catalog of the college or university to which they plan to transfer.

Departmental Certification

Students who feel written proof of their proficiency in Spanish would be beneficial to their careers may apply for Departmental Certification after they have completed SPAN 140 and a minimum of two additional units and have passed the department tests on aural comprehensive and speaking fluency.

Speech

Associate in Arts Degree with a major in Speech; Transfer Program

A.A. Degree

Major requirements: SPCH 100, 111, 112, 120, 130 or 150; 6 units selected from English or literature courses. Total: 21 semester units.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

Transfer Program

See the Transfer Planning and Major Preparation Recommendations sections of this catalog. Students should also consult the catalog of the college or university to which they plan to transfer.

Technical Art and Graphics

Associate in Arts Degree with a major in Technical Art/Graphics; Transfer Program; Certificate Program

Career Opportunities: Opportunities exist in the publishing, printing, and manufacturing industries as well as corporate creative services, independent design studios, and advertising agencies.

A.A. Degree

Major requirements: TA&G 200, 201-202, 210, 220, 300, 310, 352; TA&G 400 or 641; ART 202 or 328. Total: 38 semester units.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

Transfer Program

See the Transfer Planning and Major Preparation Recommendations sections of this catalog. Students should also consult the catalog of the college or university to which they plan to transfer.

Certificate Program

Certificate requirements: completion of A.A. degree major requirements listed above with a grade of C or higher in each course. Total: 38 semester units.

Technical Art and Graphics: Industrial Design

Career Opportunities: industrial designers work for manufacturing companies and independent design offices. Today, nearly every manufacturer of consumer hard goods, housewares, appliances, automobiles, and electronic equipment has a design staff or retains a consultant.

Transfer Program

Students should refer to the catalog of the college of their choice for special requirements since the three California colleges approved by the Industrial Design Society of America vary considerably in their recommendations for undergraduate preparation.

Recommended courses: TA&G 201, 210, 220, 310. Total: 18 semester units.

Suggested Electives: MANU 120.

In addition, the three colleges referred to above typically also require these courses: ART 102, 103; BIOL 110; ECON 100; PHYS 210, 220; SPCH 100.

Welding Technology

Associate in Science Degree with a Major in Welding Technology; Transfer Program; Certificate Programs

Recommended high school preparation: high school graduate or equivalent or 18 years of age, elementary algebra, physics, mechanical drawing, drafting, keyboarding, or word processing.

A.S. Degree

Major requirements: WELD 110, 111, 120, 121, 210, 211, 220, 221, 250; DRAF 120; ELEC 110; MATH 110 or higher; MTT. 200; PHYS 100 or MANU 100. Total: 48-50 semester units.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

Transfer Program

See the Transfer Planning and Major Preparation Recommendations sections of this catalog. Students should also consult the catalog of the college or university to which they plan to transfer.

Welding Technology: Welding Technician**Certificate Program**

Certificate requirements: completion of the major requirements listed above with a G.P.A. of 2.0 or higher.

Welding Technology: General Welder**Certificate Program**

Recommended high school preparation: elementary algebra, physics, mechanical drawing.

Certificate requirements: WELD 110, 111, 120, 121, 250; DRAF 120; MATH 110 or higher; MTT. 200; PHYS 100 or MANU 100. Total: 27-29 semester units.

Completion of the major requirements listed above with a G.P.A. of 2.0 or higher.

Welding Technology: Manufacturing Technology (formerly TIG Welder)**Certificate Program**

Career Opportunities: The field of manufacturing technology offers employment in automobiles, aircraft, guided missiles, nuclear energy, railroads, radio, television, appliances, department stores and food processing plants.

Certificate requirements: WELD 300, 700; DRAF 120; ELEC 110; MTT 200 or 750; MTT 701 or MANU 101; DRAF 100; WELD 250 plus 3 units selected from BUS. 305 or BUSD 101 or 201 or BUSM 211 or 212 or ELEC 260 or 280 or MTT 702, 703 or 755 or EHMT or ENVT 100. Total: 24-25 semester units.

Women's Studies

College of San Mateo currently offers Women's Studies courses in various academic disciplines. These include HIST 260: Women in American History (3 units), which surveys the accomplishments of American women from colonial times to the present. The roles played by American women of different racial and local origins are explored in depth. LIT. 251: Women in Literature (3 units) investigates the images of women in English and American literature and introduces students to important contemporary women writers. PLSC 255: Women, Politics and Power (3 units) examines the changing role of women in the American political process. CRER 101-102-103: College Re-Entry (1-3 units) analyzes the student's present abilities and interests, develops college-level study skills, examines career opportunities for women, and provides academic and career counseling in a milieu supportive of women.

An academic major in Women's Studies is now available at some four-year colleges and universities. Students interested in majoring in Women's Studies should consult the catalog of the college of their choice for detailed information. In addition, the College of San Mateo offers a College Re-Entry Program for students whose formal education has been interrupted or postponed (see Index: Re-Entry Program).

Description of Courses

Prerequisites and Corequisites

A *prerequisite* is a condition of enrollment that a student is required to meet. A *corequisite* is a course that a student is required to take simultaneously in order to enroll in another course. *Recommended preparation* is a condition of enrollment that a student is advised, but not required, to meet.

Special Courses

The following special courses may be offered in instructional programs as recommended by the appropriate Division Dean and approved by the Committee on Instruction. See class schedule for specific course descriptions and current semester offerings.

641 Cooperative Education (1-4) (*Credit/No Credit or letter grade option.*) Work experience in a field related to a career goal, supplemented by individual counseling from an instructor-coordinator. (See Index: "Cooperative Education.") (CSU)

680 – 689 Selected Topics (1-3) *Hours by arrangement.* Selected topics not covered by regular catalog offerings. Course content and unit credit to be determined by the appropriate division in relation to community-student need and/or available staff. May be offered as a seminar, lecture, or lecture/laboratory class. (CSU)

690 Special Projects (1-2) *Hours by arrangement.* *Prerequisite:* 3.0 G.P.A. in subject field. Independent study in a specific field or topic, directed by an instructor and supervised by the Division Dean. Students are eligible to request approval of a special project only after successfully completing at least two college-level courses in the subject field. (Note: Students normally may receive credit for only one special project per semester.) (CSU)

680 and 690 courses are also transferable to UC, contingent upon a review of the course outline by a UC campus. Maximum credit allowed in Selected Topics and Special Projects is 3 units per term, with 6 units total in any or all subject areas combined.

880 – 889 Selected Topics (1-3) *Hours by arrangement.* *Nontransferable course.* Selected topics not covered by regular catalog offerings. Course content and unit credit to be determined by the appropriate division in relation to community-student need and/or

California Articulation Number (CAN)

The California Articulation Number (CAN) identifies some of the transferable lower-division introductory courses commonly taught within each academic discipline on college campuses.

The system assures students that CAN courses on one participating campus will be accepted in lieu of the comparable CAN course on another participating campus.

The CAN system is new and growing and designed to facilitate student transfer between and among public institutions of higher education in California. CANs are listed parenthetically after the course description in the section which follows.

available staff. May be offered as a seminar, lecture, or lecture/laboratory class.

Accounting

100 Accounting Procedures (3) *Three lecture hours per week. Recommended Preparation:* BUS. 115; *eligibility for ENGL 800.* Study of the accounting cycle for service and merchandising businesses. Preparation of journals, ledgers and financial statements using manual and computerized practice sets. (CSU)

121 Financial Accounting (5) *Five lecture hours plus two lab hours by arrangement per week. Prerequisites:* Spreadsheet I (BUSD 401 or BUSM 411 or BUSW 411) or equivalent. *Recommended Preparation:* ACTG 100; ENGL 100. Preparation and interpretation of accounting information. Topics include application of generally accepted accounting principles to value assets, liabilities, and equity; accounting systems; use software applications to prepare and analyze accounting information; use of accounting information by decision makers. (CSU/UC) (CAN BUS 2)

131 Managerial Accounting (5) *Five lecture hours plus two lab hours by arrangement per week. Prerequisite:* ACTG 121; Spreadsheet I (BUSD 401 or BUSM 411 or BUSW 411) or equivalent. Use of accounting information by management for analysis, planning, decision making and control; use of software applications to prepare and

analyze accounting information. Topics include product cost accumulation, cost-volume-profit analysis, responsibility accounting, budgeting, and long- and short-term decision-making including capital budgeting. (CSU/UC) (CAN BUS 4)

142 Automated Accounting (3) (*Credit/No Credit or letter grade option.*) *Three lecture hours per week. Prerequisite:* ACTG 100 or 121 or equivalent. Practical application of accounting procedures utilizing a microcomputer and an integrated accounting software package. Study of software and hardware evaluation, internal control issues, and systems implementation as they apply to a computerized accounting environment. Manual to automated system conversion. (CSU)

171 Federal Income Tax I (3) *Three lecture hours per week. Prerequisite:* ACTG 121 or equivalent. Procedures for computing the income tax liability of individuals in accordance with the latest income tax laws and regulations. Practice in solving typical problems and in the preparation of tax returns.

172 Federal Income Tax II (3) *Three lecture hours per week. Prerequisite:* ACTG 121 or equivalent. Procedures for computing the income tax liability of partnerships, corporations, estates, and trusts in accordance with the latest income tax laws and regulations. Practice in solving typical problems in the preparation of tax returns.

641 Cooperative Education (1-4) (See first page of Description of Courses section.) (CSU)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Administration of Justice

(Law Enforcement)

100 Introduction to Administration of Justice (3) *Three lecture hours per week. Required of all Administration of Justice majors. Recommended Preparation:* eligibility for ENGL 800. History and philosophy of administration of justice in America;

recapitulation of the system; identification of the various subsystems, role expectations, and their interrelationships; theories of crime; education and training for professionalism in the system. (This course is part of the core curriculum.) (CSU/UC) (CAN AJ 2)

102 Principles and Procedures of the Justice System (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Detailed study of the role and responsibilities of each segment of the administration of justice system: law enforcement, judiciary, and corrections. Analysis of past, present, and future exposure to each subsystem; procedures from initial entry to final disposition; and the relationship each segment maintains with its system members. (This course is part of the core curriculum.) (CSU/UC)

104 Concepts in Criminal Law (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Historical development; philosophy of law and constitutional provisions; definitions; classifications of crime and their application to the system of administration of justice; legal research, study of case law, and methodology and concepts of law as a social force. (This course is part of the core curriculum.) (CSU/UC) (CAN AJ 4)

106 Legal Aspects of Evidence (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Origin, development, philosophy, and constitutional basis of evidence; constitutional and procedural considerations affecting arrest, search, and seizure; kinds and degrees of evidence and rules governing their admissibility; judicial decisions interpreting individual rights and case studies. (This course is part of the core curriculum.) (CSU)

108 Community Relations (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Comprehensive exploration of the roles of administration of justice practitioners and their agencies. Analysis of relationships between agencies and the public. Emphasizes the professional image of the system of justice administration and the development of positive relationships between the system and the public. (This course is part of the core curriculum.) (CSU/UC)

120 Criminal Investigation (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.*

Basic principles of criminal investigations. Includes human aspects of dealing with the public; specific knowledge necessary for handling crime scenes; interviews, evidence, surveillance, follow-up, technical resources, and case preparation. (CSU) (CAN AJ 8)

125 Juvenile Procedures (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Study of extent, causes, and prevention of juvenile delinquency; analysis of juvenile courts, probation, institutional treatment, and parole and prevention programs. The sociological and anthropological approaches to juvenile delinquency in terms of their relation to the administration of justice systems. (CSU)

153 Patrol Procedures (3) *Three lecture hours per week. Prerequisite: completion of or concurrent enrollment in ADMJ 100. Recommended Preparation: eligibility for ENGL 800.* Methods, techniques, and responsibilities of the patrol unit. The value of a one-person car as opposed to a two-person car; marked vs. unmarked patrol cars; beat patrol and observation; police hazards and how to handle them. (CSU)

165 Police Organization and Administration (3) *Three lecture hours per week. Prerequisites: ADMJ 100 and 102 or possession of POST Basic Certificate. Recommended Preparation: eligibility for ENGL 800.* Study of police organization and administration. Covers chain of command, span of control, functional supervision, unity of command, and the purpose of the police organization and administration. (CSU)

641 Cooperative Education (1-4) (See first page of Description of Courses section.) (CSU)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

755 Advanced Officers Course (1-2.5) *Twenty to forty lecture hours per semester by arrangement. Prerequisite: satisfactory completion of a basic law enforcement course approved by POST (Peace Officer Standards and Training Commission).* New laws, recent court decisions, current enforcement procedures, new concepts in law enforcement technology, community relations, and other refresher training as may be necessary. Certified by POST (Peace

Officer Standards and Training Commission). (To maintain competency, may be repeated for credit as required by POST.)

762 Security Baton Training (.5) *Total of twelve lecture hours.* Study of the legal and moral aspects of the use of force. Instruction in baton procedures, defensive and offensive control, and arrest techniques. Students must meet performance objectives. This course is certified by POST (Peace Officers Standards and Training Commission) and fulfills the requirements of the Consumer Affairs Division. Students should contact the Administration of Justice Office before the class meets.

766 Chemical Agent Instruction (.5) *Eight lecture hours per semester by arrangement. Prerequisite: completion of or concurrent enrollment in ADMJ 771 or 772.* History and use in law enforcement of non-lethal chemical agents. Field application and exposure to chemical agents and first aid for exposure victims. Safety instruction for firing range operation; care, safety, and use of chemical agent weapons, including range familiarization. Conforms to POST (Peace Officers Standards and Training) requirement for chemical agents training. (Note: Any person convicted of a felony may be violating the law by participating in this course.)

770 Advanced Dispatcher/Clerk (1-2.5) *Twenty to forty lecture hours per semester.* Preparation for a position as a dispatcher and/or complaint clerk with a law enforcement agency. Review of procedures to upgrade the skills of those presently employed in this field.

771 Reserve Officers Basic Training Module A (3) *Forty-four lecture and twenty lab hours per semester.* Arrest, search, and seizure; theory and practical application of related laws; firearms, legal consideration, safety standards, and procedures. Range-firing of weapon and qualification by students. Students must meet performance objectives upon completion of course. Course is certified by POST (Peace Officer Standards and Training Commission) as required under Penal Code Section 832.6 (a) (1). (Note: Any person convicted of a felony may be violating the law by participating in the firearms portion of this course.)

772 Reserve Officers Basic Training Module B (5) *Eighty lecture and sixteen lab hours per semester. Prerequisite: ADMJ 771.* Role of the back-up officer, including

law, communications, driver awareness, force and weaponry, patrol procedures, traffic, and custody and defense tactics. Upon completion of the course, students must meet the required performance objectives. Course certified by POST (Peace Officers Standards and Training) to partially fulfill requirements for Reserve Peace Officers defined under Penal Code Section 822.6 (a). (Note: Any person convicted of a felony may be violating the law by participating in the firearms portion of this course.)

773 Reserve Officers Basic Training Module C (4) *Sixty-eight lecture hours.* Prerequisites: completion of Module A and completion of or concurrent enrollment in Module B of Reserve Officers Basic Training as defined by POST. Criminal law, criminal evidence, criminal investigation, introduction to law enforcement, juvenile procedures, patrol procedures, police-community relations, and traffic laws and control. Certified by POST (Peace Officer Standards and Training Commission). When successfully completed with ADMJ 771 and 772, meets minimum classroom requirements for Non-designated Level 1 Reserve Officers.

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Aeronautics

(Also see Meteorology 100)

Students in airframe and powerplant courses required to provide their own tools and supplies and to pay fees for airplane taxiing.

100 Private Pilot Ground School (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Preparation to take FAA Private Pilot written examination. Principles of flight, Federal Aviation Regulations, flight environment, aircraft performance, and aviation weather. Weather charts, navigation, cross country flight planning, emergency procedures, and aviation medical considerations. (CSU)

130 Introduction to Aeronautics for Mechanics (3) *Three lecture hours per week. Corequisite: concurrent enrollment in ELEC 242/243. Recommended Preparation: one year of high school algebra with a grade of C or higher and eligibility for ENGL 800.* Introduction to aeronautical technology, including basic electricity, shop mathematics, history of flight, aerodynamics, and aircraft propulsion systems.

Designed primarily for students planning to enter the FAA approved maintenance curriculum. (CSU)

(Also see ELEC 242/243, Aircraft Electricity)

300 General Maintenance I (2.5) *Five lecture hours per week for eight weeks. Corequisite: concurrent enrollment in AERO 301. Recommended Preparation: AERO 130 and ELEC 242/243 OR at least one year (2,000 hours) of practical experience in the aviation maintenance industry. (Experience must be verified and approved by the aeronautics coordinator.)* Blueprint reading, mechanical drawing, aircraft weight and balance procedures, and other maintenance functions as specified in Federal Aviation Regulations Part 147. (CSU)

301 General Maintenance Lab I (4.5) *Twenty-seven lab hours per week for eight weeks. Corequisite: concurrent enrollment in AERO 300.* Aircraft weighing, nondestructive testing, basic heat treating, and other maintenance functions as specified in Federal Aviation Regulation Part 147. (CSU)

310 General Maintenance II (2.5) *Five lecture hours per week for eight weeks. Corequisite: concurrent enrollment in AERO 311. Recommended Preparation: AERO 130 and ELEC 242/243 OR at least one year (2,000 hours) of practical experience in the aviation maintenance industry. (Experience must be verified and approved by the aeronautics coordinator.)* Fundamentals of direct and alternating current electricity, fundamentals of applied mathematics, fundamentals of applied physics, use of technical manuals, and other maintenance functions as specified by Federal Aviation Regulation Part 147. (CSU)

311 General Maintenance Lab II (4.5) *Twenty-seven lab hours per week for eight weeks. Corequisite: concurrent enrollment in AERO 310.* Calculate and measure electrical power volts, amps and resistance as specified by Federal Aviation Regulation Part 147. (CSU)

320 Powerplant Maintenance I (2.5) *Five lecture hours per week for eight weeks. Prerequisites: AERO 300/301 and 310/311. Corequisite: concurrent enrollment in AERO 321.* Piston engine construction and operation and basic powerplant indicating systems, as specified in Federal Aviation Regulations Part 147. (CSU)

321 Powerplant Maintenance Lab I (4.5) *Twenty-seven lab hours per week for eight weeks. Corequisite: concurrent enrollment in AERO 320.* Inspection and repair of opposed and radial piston engines; powerplant inspections; inspection of engine indicating systems as specified by Federal Aviation Regulations Part 147. (CSU)

330 Airframe Maintenance I (2.5) *Five lecture hours per week for 8 weeks. Prerequisites: AERO 300/301 and 310/311. Corequisite: concurrent enrollment in AERO 331.* Principles of aircraft sheet metal and wooden structures, identification of aircraft fasteners, and aircraft sheet metal layout and fabrication as specified in Federal Aviation Regulations Part 147. (CSU)

331 Airframe Maintenance Lab I (4.5) *Twenty seven lab hours per week for eight weeks. Corequisite: concurrent enrollment in AERO 330.* Installation of special rivets and fasteners, inspection and repair of sheet metal structures, fabrication of tubular structures, and other aircraft structural maintenance functions as specified by Federal Aviation Regulations Part 147. (CSU)

340 Powerplant Maintenance II (2.5) *Five lecture hours per week for eight weeks. Prerequisites: AERO 300/301 and 310/311. Corequisite: concurrent enrollment in AERO 341.* Fundamentals of turbine engine construction and operation of turbine engine fuel metering systems; theory of operation of engine fire detection and control systems as specified in Federal Aviation Regulations Part 147. (CSU)

341 Powerplant Maintenance Lab II (4.5) *Twenty-seven lab hours per week for eight weeks. Corequisite: concurrent enrollment in AERO 340.* Inspection and service of turbine engines and repair of turbine fuel metering components as specified in Federal Aviation Regulations Part 147. (CSU)

350 Airframe Maintenance II (2.5) *Five lecture hours per week for eight weeks. Prerequisites: AERO 300/301 and 310/311. Corequisite: concurrent enrollment in AERO 351.* Principles of construction of aircraft structures, repair of aircraft synthetic material, and principles of rigging fixed- and rotary- wing aircraft as specified in Federal Aviation Regulations Part 147. (CSU)

351 Airframe Maintenance Lab II (4.5) *Twenty-seven lab hours per week for eight weeks. Corequisite: concurrent enrollment in AERO 350.* Application of aircraft covering material; aircraft painting; rigging of

fixed-and rotary-wing aircraft as specified in Federal Aviation Regulations Part 147. (CSU)

360 Powerplant Maintenance III (2.5) *Five lecture hours per week for eight weeks. Prerequisites: AERO 300/301 and 310/311. Corequisite: concurrent enrollment in AERO 361.* Theory of operation and construction of aircraft propellers and related components and piston fuel metering systems as specified in Federal Aviation Regulations Part 147. (CSU)

361 Powerplant Maintenance Lab III (4.5) *Twenty-seven lab hours per week for eight weeks. Corequisite: concurrent enrollment in AERO 360.* Inspection and repair of engine exhaust and cooling systems; repair and balancing of propellers; service and repair of engine fuel metering components as specified in Federal Aviation Regulations Part 147. (CSU)

370 Airframe Maintenance III (2.5) *Five lecture hours per week for eight weeks. Prerequisites: AERO 300/301 and 310/311. Corequisite: concurrent enrollment in AERO 371.* Theory of operation of aircraft hydraulic, pneumatic, oxygen, and autopilot systems and other aircraft systems and components as specified in Federal Aviation Regulations Part 147. (CSU)

371 Airframe Maintenance Lab III (4.5) *Twenty-seven lab hours per week for eight weeks. Corequisite: concurrent enrollment in AERO 370.* Inspection and repair of aircraft hydraulic, fuel, pneumatic, and instrument systems and other aircraft components and systems as specified in Federal Aviation Regulations Part 147. (CSU)

641 Cooperative Education (1-4) (See first page of Description of Courses section.) (CSU)

666 Careers in Aviation (1) *Two lecture hours per week for eight weeks.* Explores aviation career opportunities—civilian, military, government, airline—and the prospects for employment.

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

American Sign Language

111 American Sign Language I (3) *Three lecture hours per week.* Basic course in American sign language taught as a second language using dialogue drills, commands, and creative ideas. (CSU/UC)

112 American Sign Language II (3) *Three lecture hours per week. Prerequisite: ASL 111 or SIGN 821 or equivalent with a grade of C or higher.* Encoding, decoding, interaction, and acquisition techniques for skilled hearing signers and deaf people. (CSU/UC)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Anthropology

(Also see *Biology 125*)

105 Peoples and Cultures of the World (3) *(Credit/No Credit or letter grade option.) Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Comparative study of cultures throughout the world. Compares and contrasts the ways of life of such diverse people as Hunters and Gatherers (the Inuit, Bushmen of the Kalihara), Horticulturists (Trobriand Islanders, Yanamamo of Brazil, the Jhivaro of Ecuador), Agriculturists (Rural Greece, Rural Vietnam: the Mekong Delta, the Irish Peasant), and Industrial societies (U.S.A., the Pacific Rim, Europe). Emphasizes traditional cultures and the impact of change that has occurred with the process of modernization. (CSU/UC)

110 Cultural Anthropology (3) *(Credit/No Credit or letter grade option.) Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Study of culture as the man-made environment of particular societies. Introduction to the anthropological point of view. Cross-cultural comparisons of cultural practices in specific societies and sub-cultures, including contemporary ethnic groups in the United States. (CSU/UC) (CAN ANTH 4)

180 Magic, Science & Religion (3) *(Credit/No Credit or letter grade option.) Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Cross-cultural study of preliterate societies' beliefs about the nature of reality, and their religious, scientific, and magical practices as a consequence of these beliefs. Primitive techniques for controlling both the natural and the supernatural. (CSU/UC)

370 Introduction to Pre-Columbian Mesoamerican Civilizations (3) *(Credit/No Credit or letter grade option.) Recommended Preparation: eligibility for ENGL 800.* Develops an awareness and understanding of the major accomplishments of Olmec, Zapotec, Teotihuacan, Maya, Toltec, and Aztec subcultures via their myths, philosophy, religion, art, and socio-political traditions. The final segment of the course shows how many of these past traditions survive today in the Mexican and Central American cultures. (CSU/UC)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Apprenticeship Training

The courses in this section are administered by College of San Mateo in conjunction with various trade and industry joint apprenticeship committees. Registration is limited to those students fulfilling the related instruction requirements of the State of California as indentured apprentices. For more information contact the Apprenticeship Office.

641 Cooperative Education (1-4) (See first page of Description of Courses section.)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Culinary Apprenticeship (CULN)

Prerequisite: indenture in the Culinary Apprenticeship Program, approved by the California State Division of Apprenticeship Standards.

701 Culinary Apprenticeship I (.5-4) *(Open entry/open exit.) Four lecture hours*

per week. History of culinary art; kitchen tools and equipment; culinary terms; safety and hygiene; food preservation and nutrition; recipe conversion; cooking methods; herbs and spices.

702 Culinary Apprenticeship II (.5-4) (Open entry/open exit.) Four lecture hours per week. Purchasing principles; dairy and cheese varieties; vegetable purchasing and cookery; farinaceous foods; salads and salad dressings; popular sandwiches; egg cookery; frying techniques.

703 Culinary Apprenticeship III (.5-4) (Open entry/open exit.) Four lecture hours per week. History and operation of Meat Packers' Industry; kitchen tools and equipment; composition and cuts of beef, veal, pork, and lamb; variety and processed meats; varieties and cooking methods of poultry; varieties of fish, crustaceans, and mollusks.

704 Culinary Apprenticeship IV (.5-4) (Open entry/open exit.) Four lecture hours per week. Introduction to soups and sauces; thickening and binding agents; bisques and chowders; regional, national, and cold soups; bechamel, veloute, and tomato sauces and derivatives; demi-glaze and derivatives; hollandaise sauce and derivatives; special sauces and marinades; menu planning.

705 Culinary Apprenticeship V (.5-4) (Open entry/open exit.) Four lecture hours per week. History of Garde Manger; functions of cold kitchen; equipment, utensils, and special tools of Garde Manger; safety and sanitation; hot and cold Hors D'Oeuvres; selection and decoration of fish, ham, and coronets; preparation of lobster, Alaskan king crab, and other crustaceans; ice carving and tallow sculpture.

706 Culinary Apprenticeship VI (.5-4) (Open entry/open exit.) Four lecture hours per week. Introduction to cakes, pies, and tarts; decoration of cakes using various icings; preparation techniques of cookies, petit fours, meringues, cream puffs, and pastry variations; chocolates and sugar work; orientation to wines; instruction in the complexity of executive chef positions; restaurant management.

707 Culinary Apprenticeship VII (.5-4) (Open entry/open exit.) Four lecture hours per week. The sanitation challenge: providing safe food; foodhandler; the Microworld. The flow of food through the operation: foodservice safety system; purchasing and

receiving; keeping, storing, and protecting food in preparation and serving. Clean and sanitary facilities and equipment: cleaning, sanitizing, organizing cleaning program, and pest management. Accident prevention: action for emergencies and crisis management. Sanitation management: sanitation regulations, standards, and employee training.

708 Culinary Apprenticeship VIII (.5-4) (Open entry/open exit.) Four lecture hours per week. Carbohydrates; lipids: fats and oils; protein, vitamins, minerals, and water; overweight and underweight (definitions and causes); treatment of obesity; nutrition and cardiovascular disease; nutrition and cancer; nutrition and behavior; marketing a nutrition program; developing healthy recipes; lower calorie options for the bar; menu planning for the athlete, for the vegetarian, and for pregnancy, lactation, and feeding the newborn; nutrition during childhood and adolescence; menu planning for adulthood.

Electrical Apprenticeship (ELEL)

Prerequisite: indenture in the Electrical Apprenticeship Program, approved by the California State Division of Apprenticeship Standards.

701 Electrical Apprenticeship I (3) Two and one-half lecture and two and one-half lab hours per week. Safety, wiring methods, tools, introduction to the code, structure of matter, wire, electron theory, resistance, Ohm's Law, electrical math, power, fastening devices, conduit, series and parallel circuits, combination circuits, and overcurrent protection devices.

702 Electrical Apprenticeship II (3) Two and one-half lecture and two and one-half lab hours per week. Safety, wiring methods, voltage drop, magnetism, grounding, principles of generation, electrical plans, circuit calculations, DC motors and generators, three-phase AC, resistive circuits, general lighting, and first aid.

703 Electrical Apprenticeship III (3) Two and one-half lecture and two and one-half lab hours per week. Safety, wiring methods, math of AC circuits, incandescent lamps, electrical testing, inductance, AC and DC meters, rectifiers, transformers, reactance, capacitance, capacitors, Wholt job, projection, and isometric line sketching.

704 Electrical Apprenticeship IV (3) Two and one-half lecture and two and one-half lab hours per week. Safety, wiring

methods, series and parallel RC & RL circuits, rigging, motor drives, calculations, LC circuits, fire alarms, refrigeration cycle, basic air conditioning, short circuit calculations, and T.I.

705 Electrical Apprenticeship V (3) Two and one-half lecture and two and one-half lab hours per week. Safety, theory, wiring systems, distribution systems, basic principles of A/C motors, power in A/C circuits (power factor) capacitors, split phase motors, repulsion motors including pole shaded, universal and three-phase and electrical riser diagrams, service and feeders, and three-phase transformers.

706 Electrical Apprenticeship VI (3) Two and one-half lecture and two and one-half lab hours per week. Motor starting, protective controls, hazardous locations, starters and relays, developing simple circuits, sequence control circuits, current analysis, trouble shooting, fluorescent lamps, wiring and piping, and circuit economics.

707 Electrical Apprenticeship VII (3) Two and one-half lecture and two and one-half lab hours per week. Nuclear safety, foremanship, resonance (series and parallel), semiconductors, busways, transistors, wiring roughing, amplifiers, electric closets, coupling networks, and oscillators.

708 Electrical Apprenticeship VIII (3) Two and one-half lecture and two and one-half lab hours per week. Application of electronics, measurement and control, emergency lighting, temperature, pressure and levels, metric system, static control, metrification, journeyman status, and code review.

709 Electrical Apprenticeship IX (3) Two and one-half lecture and two and one-half lab hours per week. *Prerequisite: ELEL 708 with a grade of C or higher.* NEBF; blueprint reading; sexual harassment; basic fire alarms and installation; advanced technology systems; maintenance and troubleshooting; principles of process and process control; process time lags; basic manual and feedback control; proportional control action and review; sensors and transmission systems; basic telephone wiring and installation; high voltage testing and safety; insulation quality testing (use of a megohmmeter).

710 Electrical Apprenticeship X (3) Two and one-half lecture and two and one-half lab hours per week. *Prerequisite: ELEL 709 with a grade of C or higher.* Air conditioning and refrigeration (introduction, heat-

temperature, and pressure); refrigerants and ozone depletion-vapor compression refrigeration systems; refrigeration loads; tools and piping; introduction to cable faults; locating cable faults (terminal method, tracing method, and magnetic detection); basic security systems; alarms; processors and memory; programmable devices, controllers, timers, and counters; data manipulation and arithmetic; start-up and troubleshooting.

Hazardous Materials Apprenticeship (HZMT)

Prerequisite: indenture in the Industrial Emergency Council Apprenticeship Training Program, approved by the California State Division of Apprenticeship Standards.

701 Hazardous Materials Apprenticeship I (2.5) (*Credit/No Credit grading.*) Total of forty lecture hours. Definition of basic chemistry terminology; identification of chemical formulas, names, and structures; recognition of chemical and physical properties of various chemicals and the hazards of each; utilization of reference manuals, material data sheets, data basis, technical information centers, field sampling, and monitoring equipment; introduction to the nine D.O.T. classes.

702 Hazardous Materials Apprenticeship II (1.5) (*Credit/No Credit grading.*) Total of twenty-four lecture and sixteen lab hours. *Prerequisite: HZMT 701 with Credit.* Review of definitions of basic chemistry terminology and hazardous materials incident management theory of chemistry; chemical analysis emphasizing aspects encountered in each hazard class; introduction to toxicology; behavior and effects of toxicants and major biological systems affected by toxicants; hazard and risk management; introduction to function and usage of detection and sampling instruments; use of field identification kits and hazardous atmospheres and air monitoring equipment.

703 Hazardous Materials Apprenticeship III (2.5) (*Credit/No Credit grading.*) Total of forty lecture hours. *Prerequisite: HZMT 702 with Credit.* Data research including information research concepts utilizing library references and computer data bases; hazardous materials and incident response activities and meteorological considerations; micro climatic influences and forecasting weather effects; protective actions including general concepts, sheltering actions, evacuation concepts, and effective population management; hazardous materials command

concepts; site safety concepts; specific incident considerations influencing hazardous materials; legislative and regulatory laws; contingency planning concepts including aspects of CHMICP.

704 Hazardous Materials Apprenticeship IV (2.5) (*Credit/No Credit grading.*) Total of forty lecture hours. *Prerequisite: HZMT 703 with Credit.* Instruction on confinement including diking, dams, diverting, and sorbent materials; methods of control; hazardous materials tactical considerations including triage and sabotage; obstacle course maneuvering while utilizing chemical protective clothing; methods of evidence preservation; procedures utilizing methods and equipment for decontamination; Emergency Medical Systems (EMS) considerations including medical monitoring, rescue, and transport of victims.

705 Hazardous Materials Apprenticeship V (2.5) (*Credit/No Credit grading.*) Total of forty lecture hours. *Prerequisite: HZMT 704 with Credit.* Medical monitoring guidelines at simulated hazardous materials incident; hazardous materials mitigation skills performance using "level A" protective clothing; leak repair procedures on rail cars; methods and procedures simulating off-loading of hydrocarbons; hazardous materials team role-playing practical situations.

706 Hazardous Materials Apprenticeship VI (1.0) (*Credit/No Credit grading.*) Total of eight lecture and thirty-two lab hours. *Prerequisite: HZMT 705 with Credit.* Practical operational experience at simulated hazardous materials incident; mitigation skills practice using chemical protective clothing; methods of controlling leaking containers; hazardous materials transfer between containers; classification of known and unknown chemicals; safety methods and procedures in simulated hazardous materials incident.

707 Hazardous Materials Apprenticeship VII (1.0) (*Credit/No Credit grading.*) Total of sixteen lecture and eight lab hours. First Responder Operational Level. Provides participants who are likely first responders to an industrial hazardous materials incident with an improved capability to respond to HazMat events in a safe and competent manner (within the typical resource and capability limitations of the Operational level).

708 Hazardous Materials Apprenticeship VIII (2.0) (*Credit/No Credit grading.*) Total of thirty-two lecture hours. On-Scene

Incident Commander I. Workshop designed to provide participants with an increased capability to assume the role of an Incident Commander/Scene Manager, as well as other Command and General Staff Incident Command Systems (ICS) positions during HazMat events. Emphasizes personnel safety and management.

709 Hazardous Materials Apprenticeship IX (2.0) (*Credit/No Credit grading.*) Total of thirty-two lecture and eight lab hours. Confined Space Awareness and Rescue. Specifically designed to help the rescue and emergency services assigned to confined space duties fully understand their required responsibilities, this course focuses on preparing the required rescue and emergency services teams for the true difficulties that will be encountered in a confined space rescue. Practical training offered in this course is geared to help students acquire the understanding, knowledge, and skill necessary for the safe performance of the duties assigned under their particular section of the regulation.

710 Hazardous Materials Apprenticeship X (2.5) (*Credit/No Credit grading.*) Total of forty lecture hours. Provides instruction in the use of CAMEO software program before, during, and after emergency operations. Covers the use of the chemical database and emergency planning functions of CAMEO and the theory and practice of modeling releases of toxic vapors using computers. Emphasizes hands-on training with actual scenarios and exercises.

Lithographer Apprenticeship (LITH)

Prerequisite: indenture in the Lithographer Apprenticeship Program, approved by the California State Division of Apprenticeship Standards.

701 Lithographer Apprenticeship I (1.5) (*Credit/No Credit grading.*) Three lecture hours per week for ten weeks. Introduction to Printing Technology. Provides a broad perspective of the printing industry; familiarization with the sequence of events in production printing; hands-on experiences including mechanical and electronic paste-up, graphic arts photography and scanning, image assembly, proofing, plating, press, and bindery.

702 Lithographer Apprenticeship II (1.5) (*Credit/No Credit grading.*) Three lecture hours per week for ten weeks. *Prerequisite: LITH 701 with Credit.* Basic Color Repro-

duction. Thorough discussion of color theory; processes and procedures for getting color images to press. Emphasizes four-color process printing, spot color, and varnishes; Students experience processes and procedures through a hands-on class project printed on a five-color sheetfed press.

703 Lithographer Apprenticeship III
(1.5) (Credit/No Credit grading.) Three lecture hours per week for ten weeks. Prerequisite: LITH 702 with Credit. Introduction to the Macintosh. Thorough presentation of the Macintosh operating system. Covers desktop management to basic output procedures with hands-on exercises.

704 Lithographer Apprenticeship IV
(1.5) (Credit/No Credit grading.) Three lecture hours per week for ten weeks. Prerequisite: LITH 703 with Credit. Digital Prepress. Explores the many facets of prepress on the Macintosh computer. Basic review and hands-on overview of select software packages in the following areas: scanning, image editing, illustrating, assembling and outputting. Includes student operation of these software applications through participation in a class project.

705 Lithographer Apprenticeship V (1.5)
(Credit/No Credit grading.) Three lecture hours per week for ten weeks. Prerequisite: LITH 704 with Credit. Advanced Digital Prepress. Review of basic prepress functions and software. Includes the operation of PostScript and the latest techniques in trapping and imposition software.

706 Lithographer Apprenticeship VI
(1.5) (Credit/No Credit grading.) Three lecture hours per week for ten weeks. Prerequisite: LITH 705 with Credit. Digital Files to Press. Covers correctly outputting a digital file as a prepress Macintosh operator; insuring the film is usable for platemaking; imagesetting and processor calibration; outputting procedures for popular software. Includes class projects and finishing students' work on a five-color press.

707 Lithographer Apprenticeship VII
(1.5) (Credit/No Credit grading.) Three lecture hours per week for ten weeks. Prerequisite: LITH 704 with Credit. Pagination with QuarkXPress. An in-depth look at the many options QuarkXPress provides for the production of finished pages. Through class projects, students experience document construction; typography, graphics, color, trapping, and output.

708 Lithographer Apprenticeship VIII
(1.5) (Credit/No Credit grading.) Three lecture hours per week for ten weeks. Prerequisite: LITH 707 with Credit. Advanced Pagination with QuarkXPress. A continuation of the skills covered in LITH 707, this course focuses on document construction challenges and gives the students hands-on experience using Quark-specific trapping and output solutions.

709 Lithographer Apprenticeship IX
(1.5) (Credit/No Credit grading.) Three lecture hours per week for ten weeks. Prerequisite: LITH 704 with Credit. Pagination with PageMaker. In-depth look at the many options PageMaker provides for the production of finished pages. Through class projects, students experience document construction, typography, graphics, color, trapping, and output.

710 Lithographer Apprenticeship X (1.5)
(Credit/No Credit grading.) Three lecture hours per week for ten weeks. Prerequisite: LITH 709 with Credit. Advanced Pagination with PageMaker. Building on the foundation laid in LITH 709, this course focuses on document construction challenges and PageMaker-specific trapping and outputting solutions.

711 Lithographer Apprenticeship XI
(1.5) (Credit/No Credit grading.) Three lecture hours per week for ten weeks. Prerequisite: LITH 704 with Credit. Illustrating with Illustrator. In-depth look at the basic tools and interface with Adobe Illustrator. Through exercises and a class project, students experience document construction, master Bezier curves, and explore typography, color, trapping, and output.

712 Lithographer Apprenticeship XII
(1.5) (Credit/No Credit grading.) Three lecture hours per week for ten weeks. Prerequisite: LITH 711 with Credit. Advanced Illustration with Illustrator. Based on the fundamentals presented in LITH 711, this course presents advanced tools and techniques for the production of artwork or finished pages. Through in-class and independent projects, students learn and practice the concepts of layering, masking, and trapping. Also covers plug-in filters, page layout, shortcuts, and imaging issues.

713 Lithographer Apprenticeship XIII
(1.5) (Credit/No Credit grading.) Three lecture hours per week for ten weeks. Prerequisite: LITH 704 with Credit. Digital Scanning and Separations. Covers the use of reflective and transparency scanners to convert color originals into digital information.

Includes color theory and tone reproduction review, selection of highlight and shadow points, gray balance, color correction, and analysis of final separations.

714 Lithographer Apprenticeship XIV
(1.5) (Credit/No Credit grading.) Three lecture hours per week for ten weeks. Prerequisite: LITH 713 with Credit. Advanced Digital Scanning. Offers students the opportunity to sharpen their skills in reproducing quality images for printing. Students perform numerous individual scans using a variety of techniques.

715 Lithographer Apprenticeship XV
(1.5) (Credit/No Credit grading.) Three lecture hours per week for ten weeks. Prerequisite: LITH 704 with Credit. Image Editing with Photoshop. Provides a comprehensive overview of what the Photoshop software provides to a production environment. Includes basic concepts of resolution, masking, paths, cloning, and retouching.

716 Lithographer Apprenticeship XVI
(1.5) (Credit/No Credit grading.) Three lecture hours per week for ten weeks. Prerequisite: LITH 704 with Credit. Advanced Editing with Photoshop. Emphasizes the manipulation of color images, color correction techniques, and final output to separated film. Class projects cover output on a dye sublimation color proofer.

717 Lithographer Apprenticeship XVII
(1.5) (Credit/No Credit grading.) Three lecture hours per week for ten weeks. Prerequisite: LITH 704 with Credit. Electronic Trapping. Overview of the various trapping programs available to the electronic prepress technician. Students review basic trapping procedures in Illustrator, Quark, and Pagemaker and then explore dedicated trapping systems.

718 Lithographer Apprenticeship XVIII
(1.5) (Credit/No Credit grading.) Three lecture hours per week for ten weeks. Prerequisite: LITH 704 with Credit. Advanced Electronic Trapping. Using the latest in available dedicated trapping programs, students hone their skills. Projects include output to film and the making of overlay proofs.

719 Lithographer Apprenticeship XIX
(1.5) (Credit/No Credit grading.) Three lecture hours per week for ten weeks. Prerequisite: LITH 704 with Credit. Electronic Imposition. Overview of the various imposition programs available to the electronic prepress technician. Students review basic imposition procedures in page layout soft-

ware and then explore dedicated programs such as Imposstrip and Presswise.

720 Lithographer Apprenticeship XX (1.5) (*Credit/No Credit grading.*) *Three lecture hours per week for ten weeks. Prerequisite: LITH 704 with Credit.* Advanced Electronic Imposition. Using the latest in available dedicated programs, students hone skills in electronic imposition using page layout software, procedures, and techniques.

721 Lithographer Apprenticeship XXI (1.5) (*Credit/No Credit grading.*) *Three lecture hours per week for ten weeks. Prerequisite: LITH 701 with Credit.* Sheetfed Press I. Foundation course for beginning press operators. Includes the essentials of offset lithographic press operation; the proper techniques of paper handling; preparing the feeding system; mounting plates; installing blankets; printing tight registration on two-color jobs; basic safety.

722 Lithographer Apprenticeship XXII (1.5) (*Credit/No Credit grading.*) *Three lecture hours per week for ten weeks. Prerequisite: LITH 721 with Credit.* Sheetfed Press II. Continuation of LITH 721. Covers the perfecting press cylinder and four-color process printing on a two-color press. Introduction to Heidelberg's CPC (computer print control) system. Students perform four-color process printing on a five-color press.

723 Lithographer Apprenticeship XXIII (1.5) (*Credit/No Credit grading.*) *Three lecture hours per week for ten weeks. Prerequisite: LITH 722 with Credit.* Sheetfed Press III. Continuation of four-color printing as well as more difficult work and turn, work and tumble, and sheetwise impositions.

724 Lithographer Apprenticeship XXIV (1.5) (*Credit/No Credit grading.*) *Three lecture hours per week for ten weeks. Prerequisite: LITH 723 with Credit.* Sheetfed Press Quality Control. In addition to furthering the students' skills in running a multi-color press, this course covers the use and operation of the Heidelberg CPC 2 quality control press sheet reader in conjunction with the CPC console. Includes discussion and practice of other quality control techniques.

725 Lithographer Apprenticeship XXV (1.5) (*Credit/No Credit grading.*) *Three lecture hours per week for ten weeks. Prerequisite: LITH 724 with Credit.* Sheetfed Press Troubleshooting. Final course in press training emphasizes the delicate balance of

elements in a printing job. Covers how to deal with troublesome papers, ink, and fountain solutions and focuses on printing and analyzing difficult jobs.

726 Lithographer Apprenticeship XXVI (1.5) (*Credit/No Credit grading.*) *Three lecture hours per week for ten weeks. Prerequisite: LITH 725 with Credit.* Advanced Small Press Techniques. To gain quality and productivity control in the small press environment, students explore procedures and practices for the operators of small presses or duplication. Hands-on activities include plate-to-plate and sheet-to-sheet register.

727 Lithographer Apprenticeship XXVII (1.5) (*Credit/No Credit grading.*) *Three lecture hours per week for ten weeks. Prerequisite: LITH 726 with Credit.* Bindery I. Overview of bindery layouts for the operations of cutting and folding. Covers the basic techniques of setting up and running a folder with right-angle attachment and programming multiple cuts on a computer-controlled paper cutter.

728 Lithographer Apprenticeship XXVIII (1.5) (*Credit/No Credit grading.*) *Three lecture hours per week for ten weeks. Prerequisite: LITH 727 with Credit.* Bindery II. Emphasizes more in-depth information on setup and equipment maintenance. Includes experience in handling more advanced and complicated cutting and folding jobs.

Plumbing Apprenticeship (PLUM)

Plumbing and Pipefitting

Prerequisite: indenture in the Plumbing Apprenticeship Program, approved by the California State Division of Apprenticeship Standards.

701 Plumbing Apprenticeship I (3.5) *Three lecture and two lab hours per week.* Safety, first aid, use and care of tools, history of and materials used in the plumbing industry, and shop assembly.

702 Plumbing Apprenticeship II (3.5) *Three lecture and two lab hours per week.* Mathematics, science, and mechanics applying to plumbing.

703 Plumbing Apprenticeship III (3.5) *Three lecture and two lab hours per week.* Plumbing codes and water supply systems.

704 Plumbing Apprenticeship IV (3.5) *Three lecture and two lab hours per week.* Introduction to drawing and plumbing fixtures.

705 Plumbing Apprenticeship V (3.5) *Three lecture and two lab hours per week.* Advanced plumbing and piping layout, pipe fixtures and supports, and drainage.

706 Plumbing Apprenticeship VI (3.5) *Three lecture and two lab hours per week.* Aspects of plumbing service work.

707 Plumbing Apprenticeship VII (3.5) *Three lecture and two lab hours per week.* Cutting; gas and arc welding.

708 Plumbing Apprenticeship VIII (3.5) *Three lecture and two lab hours per week.* Hydronic and solar heating.

709 Plumbing Apprenticeship IX (3.5) *Three lecture and two lab hours per week.* Further instruction in drawing and plan reading.

710 Plumbing Apprenticeship X (3.5) *Three lecture and two lab hours per week.* Further instruction in plumbing codes, builders' transit levels, and basic heating.

Steamfitting/Pipefitting

Prerequisite: indenture in the Steamfitter, Pipefitter Apprenticeship Program, approved by the California State Division of Apprenticeship Standards.

721 Steamfitter, Pipefitter Apprenticeship I (3.5) *Three lecture and two lab hours per week.* Safety and health; use and care of tools; soldering and brazing.

722 Steamfitter, Pipefitter Apprenticeship II (3.5) *Three lecture and two lab hours per week.* Mathematics and pipe measurements.

723 Steamfitter, Pipefitter Apprenticeship III (3.5) *Three lecture and two lab hours per week.* Oxyacetylene cutting and burning; basic shielded metal arc welding.

724 Steamfitter, Pipefitter Apprenticeship IV (3.5) *Three lecture and two lab hours per week.* Drawing interpretation.

725 Steamfitter, Pipefitter Apprenticeship V (3.5) *Three lecture and two lab hours per week.* Rigging and signaling, pipe materials, and basic science.

726 Steamfitter, Pipefitter Apprenticeship VI (3.5) *Three lecture and two lab hours per week.* Pumps and steam systems.

727 Steamfitter, Pipefitter Apprenticeship VII (3.5) *Three lecture and two lab hours per week.* Introduction to industrial pipe fitting and hydronic heating systems.

728 Steamfitter, Pipefitter Apprenticeship VIII (3.5) *Three lecture and two lab hours per week.* Pipe drafting and blueprint reading.

729 Steamfitter, Pipefitter Apprenticeship IX (3.5) *Three lecture and two lab hours per week.* Advanced welding.

730 Steamfitter, Pipefitter Apprenticeship X (3.5) *Three lecture and two lab hours per week.* Gas-tungsten arc welding.

Refrigeration and Air Conditioning

Prerequisite: indenture in the Refrigeration and Air Conditioning Apprenticeship Program, approved by the California State Division of Apprenticeship Standards.

741 Refrigeration & Air Conditioning Apprenticeship I (3.5) *Three lecture and two lab hours per week.* Basic refrigeration.

742 Refrigeration & Air Conditioning Apprenticeship II (3.5) *Three lecture and two lab hours per week.* Basic electricity.

743 Refrigeration & Air Conditioning Apprenticeship III (3.5) *Three lecture and two lab hours per week.* Refrigerant controls.

744 Refrigeration & Air Conditioning Apprenticeship IV (3.5) *Three lecture and two lab hours per week.* Basic and pneumatic controls.

745 Refrigeration & Air Conditioning Apprenticeship V (3.5) *Three lecture and two lab hours per week.* Brazing, piping, and hydronics.

746 Refrigeration & Air Conditioning Apprenticeship VI (3.5) *Three lecture and two lab hours per week.* Advanced electricity.

747 Refrigeration & Air Conditioning Apprenticeship VII (3.5) *Three lecture and two lab hours per week.* Electrical controls and wiring diagrams.

748 Refrigeration & Air Conditioning Apprenticeship VIII (3.5) *Three lecture and two lab hours per week.* Heat pumps.

749 Refrigeration & Air Conditioning Apprenticeship IX (3.5) *Three lecture and two lab hours per week.* Supermarket installations and refrigerator box load.

750 Refrigeration & Air Conditioning Apprenticeship X (3.5) *Three lecture and two lab hours per week.* Start-up testing and air balance.

Sheet Metal Apprenticeship (SHMT)

Sheet Metal Prerequisite: indenture in the Sheet Metal Apprenticeship Program, approved by the California State Division of Apprenticeship Standards.

701 Sheet Metal Apprenticeship I (2.5) *Two lecture and two lab hours per week.* Introduction to sheet metal industry: opportunity and obligations; history; layout and pattern development; drafting and sketching; and safety and first aid.

702 Sheet Metal Apprenticeship II (2.5) *Two lecture and two lab hours per week.* Introduction to tools, handling of sheet metal, fastenings, types of materials, mathematics, service work, and field installation. Introduction to architectural sheet metal and parallel line development.

703 Sheet Metal Apprenticeship III (2.5) *Two lecture and two lab hours per week.* Employee-employer relations, layout and pattern, and fabrication and installation of architectural sheet metal.

704 Sheet Metal Apprenticeship IV (2.5) *Two lecture and two lab hours per week.* Service work, field installations, introduction to blueprint reading, and radial line development.

705 Sheet Metal Apprenticeship V (2.5) *Two lecture and two lab hours per week.* Use of time; layout and pattern development with introduction to triangulation, mathematics, and continuation of service.

706 Sheet Metal Apprenticeship VI (2.5) *Two lecture and two lab hours per week.* Mechanical field installation, use of power actuated tools, continuation of blueprint reading, blow pipe, introduction to plastic and fibers, food service and beverage equipment, and advanced triangulation.

707 Sheet Metal Apprenticeship VII (2.5) *Two lecture and two lab hours per week.* Round pattern development, skylights, boiler breechings, lagging, rollation, short-cut methods, and special problems.

708 Sheet Metal Apprenticeship VIII (2.5) *Two lecture and two lab hours per week.* Duct design and assembly, calculation of airflow (CMF), and engineering of complete air conditioning systems.

Sheet Metal Service

Prerequisite: indenture in the Sheet Metal Service Apprenticeship Program, approved

by the California State Division of Apprenticeship Standards.

721 Sheet Metal Service Apprenticeship I (2.5) *Two lecture and two lab hours per week.* Introduction to sheet metal service trade, including basic electricity and electrical controls, cooling, heating and its controls, and air movement and filtration, with special emphasis on safety.

722 Sheet Metal Service Apprenticeship II (2.5) *Two lecture and two lab hours per week.* Continuation of heating and combination controls; advanced electrical theory, motors, heating pumps, and safety.

723 Sheet Metal Service Apprenticeship III (2.5) *Two lecture and two lab hours per week.* Review of Sheet Metal Service Apprenticeship I and II; basic refrigeration and safety.

724 Sheet Metal Service Apprenticeship IV (2.5) *Two lecture and two lab hours per week.* Compressor changeout, basic piping, multi-system control, basic heat pump application, and safety.

725 Sheet Metal Service Apprenticeship V (2.5) *Two lecture and two lab hours per week.* Theory of multi-system controls, air distribution and valves, and safety.

726 Sheet Metal Service Apprenticeship VI (2.5) *Two lecture and two lab hours per week.* Theory of hydronic piping, hydronic and water pumps, and safety.

727 Sheet Metal Service Apprenticeship VII (2.5) *Two lecture and two lab hours per week.* Boilers, chillers, combination systems, and safety.

728 Sheet Metal Service Apprenticeship VIII (2.5) *Two lecture and two lab hours per week.* Airflow and control systems (MFG), cooling towers, evaporator condensers, energy and management systems, and safety.

743 Sheet Metal Welding Apprenticeship I (2) *One lecture hour and three lab hours per week.* Introduction to and safety of sheet-metal welding, oxy-fuel welding, and power sources.

744 Sheet Metal Welding Apprenticeship II (2) *One lecture hour and three lab hours per week.* Shielded-metal arc welding, gas-tungsten arc welding, and gas-metal arc welding.

745 Sheet Metal Blueprint Reading Apprenticeship I (2) *Two lecture hours per week.* Introduction to reading plans and specifications, architectural plans, and structural plans.

746 Sheet Metal Blueprint Reading Apprenticeship II (2) *Two lecture hours per week.* Mechanical plans, electrical plans, and specialty plans.

Sprinkler Fitter Apprenticeship (SPFI)

Prerequisite: indenture in the Sprinkler Fitter Apprenticeship Program, approved by the California State Division of Apprenticeship Standards.

701 Sprinkler Fitter Apprenticeship I (3) *Three lecture hours and one lab hour per week.* Safety and health; introduction to hand tools, ladders, scaffolds, and the Rigid 300 machine; introduction to reading sprinkler drawings (part 1); care and use of hand tools; operation of sprinkler head; reading a ruler; communication of pipe dimensions; power actuated tools licensing.

702 Sprinkler Fitter Apprenticeship II (3) *Three lecture hours and one lab hour per week. Prerequisite: SPFI 701 with a grade of C or higher.* Safety and health; industry gasses; shoring and man lifts; introduction to reading sprinkler drawings (part 2); types of industry pipes, fittings, valves, and hangers; First Aid instruction; CPR Certification; history, installation, and hazard ratings of automatic sprinkler systems; Victaulic grooved and plain-end piping methods; CPVC installation certification.

703 Sprinkler Fitter Apprenticeship III (3) *Three lecture hours and one lab hour per week. Prerequisite: SPFI 702 with a grade of C or higher.* Basic mathematics; operation and functioning of a sprinkler head; knot tying and rigging techniques; oxygen-acetylene safety (part 1); heritage and future in the pipe trades.

704 Sprinkler Fitter Apprenticeship IV (3) *Three lecture hours and one lab hour per week. Prerequisite: SPFI 703 with a grade of C or higher.* Review of OSHA safety standards; copper pipe installation (soldering and brazing); wet pipe installation according to the NFPA 13 standard; wet pipe alarm valves; maintenance and inspection of automatic fire protection systems.

705 Sprinkler Fitter Apprenticeship V (3) *Three lecture hours and one lab hour per week. Prerequisite: SPFI 704 with a grade of C or higher.* Safety and health issues related to underground construction; underground piping installation (NFPA 24); oxygen-acetylene safety (part 2); fundamentals of gas welding and flame cutting.

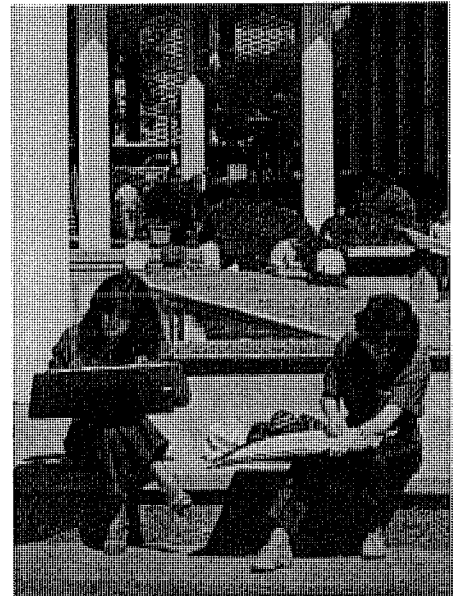
706 Sprinkler Fitter Apprenticeship VI (3) *Three lecture hours and one lab hour per week. Prerequisite: SPFI 705 with a grade of C or higher.* Operation of dry valves, accelerators, and exhausters; hydraulics and the physical properties of fluids; isometric drawing; building plans, including architectural, structural, mechanical, and electrical drawings.

707 Sprinkler Fitter Apprenticeship VII (3) *Three lecture hours and one lab hour per week. Prerequisite: SPFI 706 with a grade of C or higher.* Economics of the Sprinkler Industry; water spray systems (NFPA 15); pneumatic, hydraulic, and release deluge and Viking rate of rise fire protection systems; preaction non-interlock, single-interlock, and double-interlock systems; soldering of large diameter copper tubing; techniques and topics for tailgate meetings.

708 Sprinkler Fitter Apprenticeship VIII (3) *Three lecture hours and one lab hour per week. Prerequisite: SPFI 707 with a grade of C or higher.* Use of the T-Drill; automatic fire pump installation, start-up, certification and maintenance; combined sprinkler standpipe systems; technical reports; fire protection supply.

709 Sprinkler Fitter Apprenticeship IX (3) *Three lecture hours and one lab hour per week. Prerequisite: SPFI 708 with a grade of C or higher.* Sprinkler alarms; AA rate of rise; protomatic rate of rise; fire detectors; good foremanship (part 1); backflow protection.

710 Sprinkler Fitter Apprenticeship X (3) *Three lecture hours and one lab hour per week. Prerequisite: SPFI 709 with a grade of C or higher.* Types of foaming agents; direct injection and proportion base foam systems; bladder type foam tanks; TRI-WATER fire protection system; basic hydraulics review; fire protection for cooking equipment; fire pump basics review; good foremanship (part 2); BATT training; computer basics.



Art students in campus courtyard.

Architecture

Students intending to major in Architecture are advised to consult with the architectural counselor/advisor in the Math/Science Division before registering.

Unless otherwise indicated, a grade of C or higher is required for all prerequisite courses.

100 Survey of Contemporary Architecture (3) *Three lecture hours per week.* Basic values in contemporary architecture; its relationship to the environment, the individual and society, the home, the neighborhood, and the urban structure in general. A survey of the contributions of outstanding architects, engineers, and planners. Films, slides, lectures, and individual research. (CSU/UC*)

112 Surveying (2) *Two lecture and three lab hours per week for twelve weeks. Prerequisite: MATH 130.* Theory of measurements in surveying; measurement of distance, differential leveling and measurements of angles and directions, stadia techniques, and topographic mapping. (CSU/UC*)

120 Black and White Graphics (2) *One lecture hour and three lab hours per week plus two lab hours per week by arrangement.* Representational freehand drawing. Covers composition, visual perspective, and three-dimensional thinking. Includes an introduction to photography. A 35mm or larger format camera is necessary. Graphic

supplies will be required. (To increase competency, may be taken twice for a maximum of 4 units.) (Fall only.) (CSU/UC*)

130 Color Graphics (1) *One lecture hour and two lab hours per week.* Representational freehand drawing involving water color and ink. Further development in composition, visual perspective, and three-dimensional thinking related to form and space. Graphic supplies will be required. (To increase competency, may be taken twice for a maximum of 2 units.) (Spring only.) (CSU/UC*)

140 Architectural Drawing (2) *One lecture and three lab hours per week.* Prerequisite: ARCH 120 or equivalent and MATH 115 or equivalent or one year of high school geometry with a grade of C or higher. Development of the ability to visualize and graphically express forms and spaces in two and three dimensions, utilizing orthographic, paraline and perspective drawing. Graphic supplies will be required. (Spring only.) (CSU/UC*)

145 Delineation (2) *One lecture and three lab hours per week.* Prerequisite: ARCH 140 or equivalent. Presentation of architectural ideas and designs, using various media and techniques. Graphic supplies will be required. (To increase competency, may be taken twice for a maximum of 4 units.) (Fall only.) (CSU/UC*)

210 Design I (4) *Three lecture and three lab hours per week plus three lab hours per week by arrangement.* Corequisites: concurrent enrollment in ARCH 120 and 666. Introduction to graphic thinking, critical thinking, and three dimensional awareness. Introduction to the concepts of proportion and scale, rhythm, balance, unity and contrast. Problems in form, line, space, and composition with attention to transition, ordering systems, shade, color, and texture. Graphic supplies will be required. (Fall only.) (CSU/UC*)

220 Design II (4) *Three lecture and three lab hours per week plus three lab hours per week by arrangement.* Prerequisites: ARCH 120, 210 and 666. Corequisite: concurrent enrollment in ARCH 140. Transfers admitted by portfolio evaluation only. Continuation of ARCH 210 but on a more complex and higher plane. Introductory studies in visual and physical spacial relationships unique to architecture. Continuing problems in proportion, scale, rhythm and balance, form and line, space and composition.

Graphic and photographic supplies will be required. (Spring only.) (CSU/UC*)

230 Design III (4) *Three lecture and three lab hours per week plus three lab hours per week by arrangement.* Prerequisites: ARCH 140 and 220. Corequisite: concurrent enrollment in ARCH 145. Transfers admitted by portfolio evaluation only. Continuation of ARCH 220, but on a more complex and higher plane. Introduction to design determinants as they relate to the ordering process. Advanced studies in spatial and visual relationships involving human, environmental, and architectural criteria. Investigation into how design affects the environment and human existence therein. Research into peripheral areas through the use of architecturally related problems. Graphic and photographic supplies will be required. (Fall only.) (CSU)

240 Design IV (4) *Three lecture and three lab hours per week plus three lab hours per week by arrangement.* Prerequisites: ARCH 145 and 230. Transfers admitted by portfolio evaluation only. Continuation of ARCH 230, but on a more complex and higher plane. Advanced studies in the application of design determinants to architectural problems with an emphasis on integrated design solutions. Continued exploration of the language of graphics, visual perception, and spacial analysis as a means of architectural communication. Graphic and photographic supplies will be required. (Spring only.) (CSU)

641 Cooperative Education (1-4) (See first page of Description of Courses section.) (CSU)

666 Introduction to Architecture (1) (Credit/No Credit grading.) *Three lecture hours per week for six weeks.* An intensive introductory exploration of the academic and professional opportunities and requirements within architecture, architectural education, and environmental design. Intended to assist the beginning student contemplating a future in architecture or a related field within the built environment. (Fall only.) (CSU)

680 - 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

880 - 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Art

100 Art of the Western World (3) (Tele-course) (Credit/No Credit or letter grade option.) Recommended Preparation: ENGL 800. "Art of the Western World" traces the Western tradition in the visual arts from prehistoric times to the present day. Chronologically introducing the societies, values, and ideals that gave birth to Western Art, it explores the connection between great works and the environment that stimulated their creation. (UC credit will not be given for this course if taken after ART 101, 102, or 103.) (CSU/UC*)

101 History of Art I (3) (Credit/No Credit or letter grade option.) *Three lecture hours per week.* Recommended Preparation: eligibility for ENGL 800. Survey of artistic expression from prehistoric times to the late Middle Ages. Emphasizes the relationship of visual form to its historical and cultural content. (CSU/UC) (CAN ART 2) (Completion of ART 101, 102, and 103 = CAN ART SEQ A)

102 History of Art II (3) (Credit/No Credit or letter grade option.) *Three lecture hours per week.* Recommended Preparation: eligibility for ENGL 800. Survey of artistic expression during the Proto-Renaissance, Renaissance, and Baroque periods. Emphasizes the relationship of visual form to its historical and cultural context. (CSU/UC) (Completion of ART 101, 102, and 103 = CAN ART SEQ A)

103 History of Art III (3) (Credit/No Credit or letter grade option.) *Three lecture hours per week.* Recommended Preparation: eligibility for ENGL 800. Survey of European and American artistic expression from the 18th Century to the present. Emphasizes the development of modern painting and sculpture as a reaction against earlier traditions. (CSU/UC) (Completion of ART 101, 102, and 103 = CAN ART SEQ A)

105 Art of Asia and the Near East (3) (Credit/No Credit or letter grade option.) *Three lecture hours per week.* Recommended Preparation: eligibility for ENGL 800. Introduction to some of the major monuments and themes of the visual arts of Asia and the Near East. Explores the connection between great works and the societies, values, and ideals that stimulated their creation. (CSU/UC)

141 Interior Design I (3) *(Telecourse)* Survey of the modern home site, design, furnishings, and decoration. (CSU)

201 Form and Composition I (3) *Three lecture-critique and three lab hours per week.* Drawing proficiency not required. Basic drawing course for college students. Study of two- and three-dimensional form and space relationships and the elements of design in pictorial composition. Sequence of problems based on still life. Drawing in various dry media and graphites. (CSU/UC*) (CAN ART 8)

202 Form and Composition II (3) *Three lecture-critique and three lab hours per week.* Prerequisite: ART 201. Advanced composition; further study of three-dimensional form, in black and white and color; advanced pictorial composition in illustration and the fine arts. (CSU/UC*)

206 Figure Drawing and Portraiture (3) *Three lecture-critique and three lab hours per week.* Drawing the human figure in the modern approach from both live models and plaster anatomical casts, using charcoal, conte, and ink. Emphasizes gesture, line, texture, and expression. (To increase competency, may be taken four times for a maximum of 12 units, after which students may petition to audit. See Index: "Audit Policy.") (CSU/UC*)

207 Life Drawing (3) *(Credit/No Credit or letter grade option.) Three lecture-critique and three lab hours per week.* Prerequisite: ART 201. Drawing the human figure in the traditional manner. Lecture and demonstration on artistic anatomy. Drawing in conte and pastel from the nude model, with emphasis on three-dimensional realism, as a basis for figure and portrait painting, sculpture, and drawing. (To increase competency, may be taken four times for a maximum of 12 units, after which students may petition to audit. See Index: "Audit Policy.") (CSU/UC*)

214 Color (3) *Three lecture-critique and three lab hours per week.* Drawing proficiency not required. Study of the physical and psychological properties of color. Stresses knowledge and skills needed to use color aesthetically and imaginatively. (CSU/UC*)

223 Oil Painting I (3) *(Credit/No Credit or letter grade option.) Three lecture-critique and three lab hours per week.* Prerequisite: ART 201 or 202. Recommended Preparation: ART 214 and 301. Introduc-

tion to basic oil painting techniques and compositional ideas. Emphasizes the use of value, color, and light to model forms and create the illusion of three-dimensional objects in space. (CSU/UC*) (CAN ART 10)

224 Oil Painting II (3) *(Credit/No Credit or letter grade option.) Three lecture-critique and three lab hours per week.* Prerequisite: ART 223. Recommended Preparation: ART 214 and 301. Continuation of ART 223, with increased emphasis on color, composition, and development of a personal style. (To increase competency, may be taken three times for a maximum of 9 units, after which students may petition to audit. See Index: "Audit Policy.") (CSU/UC*)

231 Watercolor I (3) *Three lecture-critique and three lab hours per week.* Prerequisite: ART 201. Recommended Preparation: ART 214. Introduction to the basic tools and techniques of water color; washes, wet-into-wet, dry brush, transparent vs. opaque. Includes discussion of color theory, laws of diminishing contrast and compositional considerations. (CSU/UC*)

232 Watercolor II (3) *Three lecture-critique and three lab hours per week.* Prerequisite: ART 231. Continuation of ART 231, with emphasis on more painting experience in various styles and techniques in watercolor, such as an addition of opaque paints and the use of collage to extend the painting experience. (To increase competency, may be taken three times for a maximum of 9 units, after which students may petition to audit. See Index: "Audit Policy.") (CSU/UC*)

237 Etching I (3) *Three lecture-critique and three lab hours per week.* Prerequisite: ART 201. Introduction to the intaglio etching process as a fine art, with emphasis on traditional methods of timed etch in line and aquatint, soft ground, lift, drypoint, and mezzotint and their printing in value and color. Extra supplies may be required. (CSU/UC)

238 Etching II (3) *Three lecture-critique and three lab hours per week.* Prerequisite: ART 237. Advanced course with individualized instruction in intaglio etching as a fine art. Emphasis is on contemporary printing methods. (To increase competency, may be taken three times for a maximum of 9 units, after which students may petition to audit. See Index: "Audit Policy.") (CSU/UC*)

241 Silkscreen I (2-3) *Two-three lecture-critique and two-three lab hours per week.*

Introduction to the fine art application of the silkscreen with non-toxic water-base inks, including screen-building, basic stencils, printing technique, and concepts required to develop a completed print. Extra supplies may be required. (CSU/UC*)

242 Silkscreen II (2-3) *Two-three lecture-critique and two-three lab hours per week.* Prerequisite: ART 241. Advanced serigraphy; individualized instruction in water-based inks for the fine art use of the silkscreen. Extra supplies may be required. (To increase competency, may be taken three times for a maximum of 9 units, after which students may petition to audit. See Index: "Audit Policy.") (CSU/UC*)

301 Design (3) *Three lecture-critique and three lab hours per week.* Principles of composition, balance, rhythm, perspective, pattern, etc. Collage, drawing, and painting. (CSU/UC*)

305 Three-Dimensional Design (3) *Three lecture-critique and three lab hours per week.* Prerequisite: ART 301. Volume, line, and space studies using paper, wire, wood, string, and plaster of Paris construction to create mobiles, stables and similar objects. (CSU/UC*) (CAN ART 16)

328 Rendering Techniques (3) *Three lecture-critique and three lab hours per week.* Prerequisites: ART 202 and 301. Illustration techniques and tools of the commercial artist; professional procedure in developing rendering; development of an illustration from a pencil rough to a finished comprehensive. (To increase competency, may be taken four times for a maximum of 12 units.) (CSU)

330 Images and Media (3) *Three lecture-critique and three lab hours per week.* Prerequisite: ART 328 or equivalent. Recommended Preparation: ART 214, 231. Advanced course utilizing student's skills and use of media from previous studio courses. Exploration of student's original drawings through various media, mixture of media and based upon periods of art. Emphasizes individual creative problem solving and development of creative concepts from realism to abstraction. (CSU/UC*)

350 Visual Perception (3) *Three lecture-critique hours per week.* Visual exploration into natural forms and man-made objects as an expression of art using 35mm slide photography as the medium. Covers basic principles of perception, light, color, composition, and visual awareness. Encourages stu-

dents to transmit their aesthetic, intellectual and emotional concerns through the photographic medium. Instruction in the use of 35mm cameras, lenses, film, and other creative controls of photography are included. Extra supplies may be required. (CSU)

351 Beginning Black and White Photography (3) *Three lecture-critique and three lab hours per week. Recommended Preparation: ART 201, 301, or 350.* Introduction to basic black and white photographic skills and equipment. Precise methods of negative developing, printing, and finishing the fine photograph. Extensive darkroom work. Portfolio is produced. Extra supplies may be required. (CSU/UC*) (CAN ART 18)

352 Intermediate Black and White Photography (3) *Three lecture-critique and three lab hours per week. Prerequisite: ART 351.* Designed for students who have basic black and white camera and darkroom skills. Refinement of visual and technical skills. Covers intermediate exposure and development techniques applied to fine printmaking, filters, and Zone System. Portfolio is produced. Extra supplies may be required. (CSU/UC*)

353 Advanced Black and White Photography (3) *Three lecture-critique and three lab hours per week. Prerequisite: Art 352.* Designed for students who have intermediate camera and black-and-white darkroom skills. Further refinement of visual and technical skills. Covers advanced exposure and development techniques applied to fine printmaking, archival processing, portfolio presentation and use of the view-camera. Portfolio is produced. Extra supplies may be required. (To increase competency, may be taken twice for a maximum of 6 units.) (CSU)

354 Color Photography I (3) *Three lecture-critique and three lab hours per week. Prerequisite: ART 351.* Introduction to the use of color materials as an expressive medium. Access to color processor. Emphasizes mastery of the technical aspect of color balance and exposure. Extra supplies may be required. (CSU)

355 Color Photography II (3) *Three lecture-critique and three lab hours per week. Prerequisite: ART 354.* Continuation of ART 354, with emphasis on more refined control of color materials and more cohesive portfolio. Extra supplies may be required. (To increase competency may be taken three times for a maximum of 9 units.) (CSU)

360 Experimental Photography (3) *Three lecture-critique and three lab hours per week. Prerequisite: ART 351.* Designed for students who have basic camera and black-and-white darkroom skills. Refinement of visual and technical skills with emphasis on experimental techniques, such as infra-red, solarization, multiple-imagery, handcoloring and others. Portfolio is produced. Extra supplies may be required. (To increase competency, may be taken four times for a maximum of 12 units.) (CSU)

405 Sculpture I (3) *(Credit/No Credit or letter grade option.) Three lecture-critique and three lab hours per week.* Beginning clay modeling of abstract and human forms. Stresses analysis of form for realistic expression in dealing with the human form. Extra supplies may be required. (CSU/UC*) (CAN ART 12)

406 Sculpture II (3) *(Credit/No Credit or letter grade option.) Three lecture-critique and three lab hours per week. Prerequisite: ART 405 or equivalent.* Introduction to armature building, construction, mold-making, casting, and removal process. Realistic and abstract approaches; abstract stressed. Extra supplies may be required. (To increase competency, may be taken three times for a maximum of 9 units, after which students may petition to audit. See Index: "Audit Policy.") (CSU/UC*)

411 Ceramics I (3) *(Credit/No Credit or letter grade option.) Three lecture-critique and three lab hours per week.* Elementary clay construction, including pinch, coil, and slab; methods of ornamentation, glazing, and firing; introduction to the potter's wheel. Extra supplies are required. (CSU/UC*) (CAN ART 6)

412 Ceramics II (3) *(Credit/No Credit or letter grade option.) Three lecture-critique and three lab hours per week. Prerequisite: ART 411.* Continuation and advanced study of topics introduced in ART 411. Extra supplies are required. (To increase competency, may be taken three times for a maximum of 9 units, after which students may petition to audit. See Index: "Audit Policy.") (CSU/UC*)

641 Cooperative Education (1-4) (See first page of Description of Courses section.) (CSU)

680 – 889 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Astronomy

Unless otherwise indicated, a grade of C or higher is required for all prerequisite courses.

100 Introduction to Astronomy (3) *Two lecture hours and one recitation hour per week.* Survey of astronomy satisfying science requirements in state colleges and universities. Includes descriptive material on the solar system, stars, galaxies and, life in the universe, together with an introduction to the methods employed by astronomers in gathering information. (CSU/UC)

101 Astronomy Laboratory (1) *Three lab hours per week. Prerequisites: MATH 110 or equivalent AND completion of or concurrent enrollment in ASTR 100.* Use of planetarium for constellation identification, coordinate systems, and basic astronomical measurements of planets, stars and spectra. Occasional telescopic observations and visits to observatories. With ASTR 100, satisfies lab science requirements for U.C. and California State Universities. Extra supplies may be required. (CSU/UC)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Biology

Unless otherwise indicated, a grade of C or higher is required for all prerequisite courses.

100 Introduction to the Life Sciences (3) *Three lecture hours per week.* Fundamental principles of life. The awareness of plant and animal interrelations and interdependencies. Examines the human role in the world of living things in relation to contemporary problems. One or more field trips may be required. (Intended for non-science majors with no previous experience in the biological sciences.) (CSU/UC*)

102 Environmental Conservation (3) *Three lecture hours per week.* Study of the relationship of humans to the immediate and global environments, including the conservation of renewable and non-renewable resources, dynamics of ecosystems, and the interaction of plant and animal populations; alternative energy sources; and current problems caused by human interactions with the environment. One or more field trips may be required. (CSU/UC)

110 General Principles of Biology (4) *Three lecture and three lab hours per week. Recommended Preparation: eligibility for ENGL 800.* Study of the principles of the biological sciences. Includes origin and evolution of life, cellular nature of living things, genetics, ecology, life cycles, and natural history. One or more field trips may be required. Extra supplies may be required. (CSU/UC) (CAN BIOL 2)

111 General Nature Study (4) *Two lecture and six lab/field hours per week. Recommended Preparation: eligibility for ENGL 800.* Introduction to common flora and fauna of Bay Area biotic communities, with emphasis on methods of locating, identifying, preserving, and displaying selected species. Considers basic principles of biology, ecology, conservation, and nature photography as they relate to adaptation, life cycles, habits, habitats, and interrelationships. Lab includes methods of interpretation. Emphasizes internship co-op experience through local groups with a nature study orientation applied to education and recreation programs. (CSU)

125 Physical Anthropology (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Man's place in nature; man's evolution, genetics, and racial variation. Evolutionary basis of man's behavior and social systems. One or more field trips may be required. (CSU/UC) (CAN ANTH 2)

130 Human Biology (3) *Three lecture hours per week. Prerequisite: BIOL 100 or 110. Recommended Preparation: eligibility for ENGL 800.* Introductory study of human anatomy and physiology, including the functional relationships of cells to each body system, with emphasis on the relationships of structures to the functions of each body system. Recommended especially for students in the Medical Assisting program. (CSU/UC*)

140 Animals and Man (3) *Three lecture hours per week. Recommended Prepara-*

tion: eligibility for ENGL 800. Introduction to animals around us and their relationship to man. Includes basic principles of animal biology and ecology. Views animals as predators, prey, servants, companions, and bearers of disease. Emphasizes historical and traditional viewpoints, contemporary issues, animal rights and human obligations. (General education course for non-science majors.) One or more field trips may be required. (CSU/UC)

145 Plants and Man (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Introduction to plants and their functions as they apply to man. Principles of living organisms, their structure-functions, evolution, and ecology. Emphasizes the role of plants in the development of human civilization and considers their impact as a primary food source for human population. One or more field trips may be required. (CSU/UC*)

150 Introduction to Marine Biology (4) *Three lecture and three lab/field hours per week. Recommended Preparation: one college-level biology course and eligibility for ENGL 800.* Introduction to physical oceanography, marine animals, marine plants, and marine ecology. Emphasizes the natural history of marine forms, including their taxonomy, morphology, and physiology. Describes bays, estuaries, and oceans as habitats. Extra supplies may be required. (CSU/UC)

160 Human Genetics (3) *Three lecture hours per week. Prerequisite: high school biology or a college-level biology course. Recommended Preparation: eligibility for ENGL 800.* Survey of genetics with emphasis on human applications. Includes such broad topics as the principles of inheritance, gene expression and regulation, mutations and congenital defects, evolution, new scientific developments, and sociological implications. (CSU/UC)

180 Introduction to Forestry (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Study of the forest as a biological community; scientific and economic basis of forestry, including topics from ecology, dendrology, entomology, pathology, silviculture, mensuration, utilization, economics, and careers in forestry. One or more field trips may be required. (CSU/UC)

184 Wildlife Biology (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Study of wildlife

species of North America, with emphasis on common mammals of the Pacific states. Additional selected and appropriate vertebrate species: identification, characteristics, life histories, abundance, and distribution. Basic biological and ecological principles directly applicable to wildlife issues of species and habitat conservation. One or more field trips may be required. (CSU/UC)

200 General Ecology (4) *Three lecture and three lab/field hours per week. Prerequisite: one course in the biological sciences. Recommended Preparation: eligibility for ENGL 800.* Introduction to the principles of ecology and field methodology. Includes diversity and distribution of flora and fauna, interrelationships of organisms and behavioral evolution, and energy flow relationships to ecosystems and population dynamics. Emphasizes global communities as well as local habitats and species. Lab includes methods of interpretation and presentation of field project data. (CSU/UC)

210 General Zoology (5) *Three lecture and six lab hours per week. Prerequisites: BIOL 110 and CHEM 192 or 410 OR one year of high school biology with lab with a grade of B or higher and one year of high school chemistry with lab with a grade of B or higher. Recommended Preparation: eligibility for ENGL 800.* Introduction to the principles of animal biology. Includes molecular basis of life; structure, function, and behavior as seen in invertebrates and selected chordates; ecology; zoogeography; and animal evolution. One or more field trips may be required. Extra supplies may be required. (CSU/UC) (CAN BIOL 4)

220 General Botany (5) *Three lecture and six lab hours per week. Prerequisites: BIOL 110 and CHEM 192 or 410 OR one year of high school biology with lab with a grade of B or higher and one year of high school chemistry with lab with a grade of B or higher. Recommended Preparation: eligibility for ENGL 800.* Principles of biology as illustrated by plants with emphasis on structure, physiology and reproduction in green plants. One or more field trips may be required. Extra supplies may be required. (Spring only.) (CSU/UC) (CAN BIOL 6)

230 Introductory Cell Biology (4) *Three lecture and three lab hours per week. Prerequisites: CHEM 220; BIOL 110 or one year of high school biology with lab with a grade of B or higher. Recommended Preparation: eligibility for ENGL 800 and concurrent enrollment in CHEM 231.* Evaluation and analysis of the living cell and its

components. Examines cell structures and metabolism as they relate to cell function and reproduction. (Recommended for all life science and medical science majors.) One or more field trips may be required. Extra supplies may be required. (CSU/UC)

240 General Microbiology (5) *Three lecture and six lab hours per week. Prerequisites: one semester of college chemistry and college-level biology with lab course. Recommended Preparation: eligibility for ENGL 800.* Introduction to the morphology, physiology, and genetics of microorganisms, with emphasis on bacteria and viruses. Includes environmental, applied microbiology, and the role of bacteria and viruses in health and disease. Laboratory work consists of isolation, cultivation, and identification of bacteria and techniques used to demonstrate microbial properties. (Recommended for students majoring in life science, physical science, and health science.) One or more field trips may be required. Extra supplies may be required. (CSU/UC)

250 Anatomy (4) *Three lecture and three lab hours per week. Prerequisites: high school biology with a grade of B or higher OR BIOL 110 or 130. Recommended Preparation: eligibility for ENGL 800.* Structure of the human body. Laboratory study and dissection of the human male and female. (Primarily intended for students of nursing, physiotherapy, physical education and related fields such as chiropractic. Elective for pre-dental, pre-medical, and pre-veterinary students.) Extra supplies may be required. Students may take either the BIOL 250-260 or the BIOL 265-266 series. (CSU/UC*) (CAN BIOL 10)

260 Introductory Physiology (5) *Three lecture and six lab hours per week. Prerequisites: BIOL 250 and CHEM 192 or 410 OR one year of high school biology with lab with a grade of B or higher and one year of high school chemistry with lab with a grade of B or higher. Recommended Preparation: eligibility for ENGL 800.* Functions of the organs and systems of the human body. (Intended for students of nursing, physiotherapy, physical education, psychology and related fields. Elective for pre-dental, pre-medical, and pre-veterinary students.) Extra supplies may be required. Students may take either the BIOL 250-260 or the BIOL 265-266 series. (CSU/UC*) (CAN BIOL 12)

265 Anatomy/Physiology I (4) *Two lecture and six lab hours per week. Prerequisites: BIOL 110 and CHEM 192 or 410 OR one year of high school biology with lab*

with a grade of B or higher and one year of high school chemistry with lab with a grade of B or higher. Recommended Preparation: completion of or concurrent enrollment in MEDA 110; eligibility for ENGL 800. Comprehensive study of structures and associated functions of the body's organ systems, including cell structure and function, epithelium, connective tissue, integumentary, skeletal, muscular, nervous, and endocrine systems. (Intended for students of physiotherapy, occupational therapy, nursing, biology, and related fields. Elective for pre-dental, pre-medical and pre-veterinary students.) Extra supplies may be required. Students may take either the BIOL 250-260 or the BIOL 265-266 series. (Fall only.) (CSU/UC*)

266 Anatomy/Physiology II (5) *Three lecture and six lab hours per week. Prerequisite: BIOL 265.* Continued study of structures and associated functions of the organ systems of the body, including lymphatic, cardiovascular, respiratory, digestive, urinary, and reproductive systems; pregnancy and human development. (Intended for students of physiotherapy, occupational therapy, nursing, biology, and related fields. Elective for pre-dental, pre-medical, and pre-veterinary students.) Extra supplies may be required. Students may take either the BIOL 250-260 or the BIOL 265-266 series. (Spring only.) (CSU/UC*)

641 Cooperative Education (1-4) See first page of Description of Courses section. (CSU)

666 Careers in Biotechnology and Biology (1) *(Credit/No Credit or letter grade option.) One lecture hour per week. Recommended Preparation: high school biology or equivalent.* Intended for general audiences interested in understanding modern Biology and genetic engineering. Explores the mechanisms that underlie the normal functions of living cells and living organisms and the ways in which those functions are regulated by genes. Recombinant DNA methods used in medicine, agriculture, and industry in general, including genetic disease mapping, DNA fingerprinting, monoclonal antibodies, polymerase chain reaction and genetic diagnosis, growth factors, pharmaceuticals, and other topics. Exploration of employment possibilities in the field of biotechnology. One or more field trips may be required. Extra supplies may be required.

675 Honors Colloquium in Biology (1) *One lecture hour per week. Prerequisite: limited to students in the Honors Program who have completed or are concurrently*

enrolled in an associated non-honors course in biology. Readings, discussion, and lectures covering selected advanced topics in biology to be determined by the Biology Department and the Honors Program. (CSU/UC*)

680 – 689 Selected Topics (1-3) See first page of Description of Courses section. (CSU)

690 Special Projects (1-2) See first page of Description of Courses section. (CSU)

880 – 889 Selected Topics (1-3) See first page of Description of Courses section.

Broadcast and Electronic Media

110 Broadcasting in Society (3) *Three lecture hours per week.* The effects of and influences of broadcasting (and cable and other forms of electronic communication) on society. The nature, organization, and operation of the field as well as history, programming, news making, advertising, regulations, ratings, ethics, business procedures, current issues, the First Amendment, and international and comparative broadcasting. (CSU)

115 Media Performance (3) *(Credit/No Credit or letter grade option.) Two lecture and three lab hours per week.* Introduction to the basics of announcing skills; development of interview techniques. Practice in reading typical radio copy, speaking ad lib, announcing, and microphone techniques developed through regular use of the studio facilities. (To increase competency, may be taken three times for a maximum of 9 units.) (CSU)

131 Basic Audio Operations (3) *Two lecture and three lab hours per week. Recommended Preparation: BCST 115 with a grade of C or higher.* Study of the basic practices and procedures in radio broadcasting. The proper use of microphones, audio mixing consoles, tape recorders, and other common broadcast equipment, with emphasis on combo- and announcing programs. Extra supplies may be required. (CSU)

132 Radio Studio Production (3) *One lecture hour plus six lab hours per week by arrangement. Prerequisite: BCST 131 with a grade of C or higher.* Continuation of BCST 131. Emphasizes basic multi-track production techniques, including pre- and post-production procedures. Advanced stu-

dents may operate the radio broadcast station KCSM-FM as part of their laboratory assignment. (To increase competency, may be taken three times for a maximum of 9 units.) (CSU)

135 Radio Station Operations (3) *One lecture hour plus six lab hours per week by arrangement. Prerequisite: BCST 132 with a grade of C or higher.* Remote broadcasts, recording out-of-studio activities and events, compiling and producing weekly station promotional materials, and assisting students in BCST 195 in producing weekly programs. (To increase competency, may be taken twice for a maximum of 6 units.) (CSU)

194 Writing for Radio and Television (3) *Three lecture hours per week. Recommended Preparation: BUS. 305 or equivalent.* Writing and editing for radio, television, and non-broadcast video, including news, interviews, dramatic scripts, public service announcements, and commercials. Covers libel and slander laws. Emphasizes format as well as content. (CSU)

195 Projects in Radio (2) *(Credit/No Credit or letter grade option.) One lecture hour plus three lab hours per week by arrangement. Prerequisite: BCST 115 with a grade of C or higher.* Instruction in broadcast production, with major emphasis on researching a given subject and producing a series of half-hour or quarter-hour programs on it. Emphasizes the writing and final vocal delivery of the series. Programs may be aired on KCSM-FM. (To increase competency, may be taken three times for a maximum of 6 units.) (CSU)

231 Television Studio Techniques (3) *One lecture hour and six lab hours per week. Recommended Preparation: BUS. 305 or equivalent; concurrent enrollment in or completion of BCST 131 with a grade of C or higher.* Entry-level course in television production including all crew positions and operation of all equipment in the television studio (cameras, microphones and audio board, video switcher, character generator, and lighting console); also includes writing, producing, and directing. (CSU)

232 Television Production (4) *Two lecture and six lab hours per week. Prerequisite: BCST 231 with a grade of C or higher. Recommended Preparation: BCST 194 with a grade of C or higher.* More complex television production involving all studio equipment and all crew positions. Greater emphasis on writing, producing, and directing. Introduction to single camera remote video

production and video editing (To increase competency, may be taken twice for a maximum of 8 units.) (CSU)

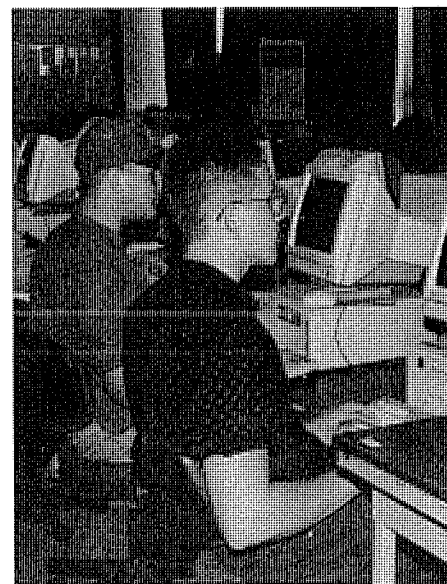
241 Electronic Field Production (4) *Two lecture and six lab hours per week. Prerequisites: BCST 232 with a grade of C or higher.* Introduction to remote video production equipment, techniques, and principles. Includes producing, directing, writing, videography, audio recording, and editing. By the end of the semester, students must pass proficiency test on remote equipment. (CSU)

242 Advanced Television Production I (4) *Two lecture and six lab hours per week. Prerequisite: BCST 241 with a grade of C or higher.* Combines skills from studio production, field production, and editing. May include public service announcements, short fillers, and magazine-style programs. Suitable program material may air on KCSM-TV and cable. (CSU)

243 Advanced Television Production II (4) *Two lecture and six lab hours per week. Prerequisite: BCST 242 with a grade of C or higher.* Continued advanced activity in television operations and productions. Students are encouraged to create a video resume of their program material. Programs suitable for televising are aired on KCSM-TV and cable. (To increase competency, may be taken three times for a maximum of 12 units.) (CSU)

244 Internship in Broadcasting (3) *(Credit/No Credit or letter grade option.) One lecture hour and six lab hours per week. Prerequisite: concurrent enrollment in or completion of BCST 132 or 232 with a grade of C or higher.* Supervised experience in broadcasting operations at KCSM-TV/FM. Students will be required to pass proficiency test on studio and remote equipment. (To increase competency, may be taken four times for a maximum of 12 units.) (CSU)

250 Practicum in Electronic Media (1-4) *(Credit/No Credit or letter grade option.) (Open entry/open exit.)* Supervised work experience in the field of broadcasting or allied agencies. Work must be related to a career goal or major, supplemented by individual counseling from the instructor/coordinator. One unit of credit is awarded for each 75 hours of paid work or 60 hours of volunteer work. The students must have new learning opportunities in order to repeat. (May be taken four times for a total of 16 units.) (CSU)



Business Skills Lab, open to all students.

301 Radio and Television Technical Operations I (3) *Two lecture hours plus five lab hours per week by arrangement.* Construction, installation, and maintenance of equipment used in KCSM-FM and KCSM-TV, including lighting, audio, and video console equipment. (CSU)

302 Radio and Television Technical Operations II (3) *Two lecture hours plus five lab hours per week by arrangement. Prerequisite: BCST 301.* Advanced instruction in the subjects introduced in BCST 301, with additional emphasis on inter-communications equipment, video tape recorders, and FM and TV transmitters. (CSU)

641 Cooperative Education (1-4) (See first page of Description of Courses section.) (CSU)

680 - 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

880 - 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Building Inspection Technology

700 Introduction to the Building Code (3) *Three lecture hours per week.* Survey of the four required courses covering building inspections, code terminology, techniques of inspection, and construction practices.

(CSU) Transferable to California State Universities, (UC) Transferable to University of California, (*) With limitations

710 Building Code Applications (3) *Three lecture hours per week. Prerequisite: BLDG 700 with a grade of C or higher or equivalent experience.* Plan checking of building for compliance with the non-structural portion of the Uniform Building Code.

720 Electrical Inspection (3) *Three lecture hours per week. Prerequisites: BLDG 700 with a grade of C or higher or equivalent experience. Recommended Preparation: ELEC 110.* Electrical wiring for building inspection, covering single-family dwellings, multifamily dwellings, commercial locations (wiring plans for a store building), industrial locations (power installations), and specialized and hazardous locations.

730 Plumbing Inspection (3) *Three lecture hours per week. Prerequisite: BLDG 700 with a grade of C or higher or equivalent experience.* Building regulations governing drainage systems, vents and venting, plumbing, water systems, building sewers, and gas piping.

740 Mechanical Code (3) *Three lecture hours per week. Prerequisite: BLDG 700 with a grade of C or higher or equivalent experience.* Regulations and inspection methods governing mechanical construction, heating and cooling equipment, combustion air, floor furnaces, wall furnaces, unit heaters, venting, ducts, ventilation systems, and refrigeration systems and equipment.

750 Advanced Plan Checking (3) *Three lecture hours per week. Prerequisite: BLDG 710 with a grade of C or higher or equivalent experience.* Study of engineering fundamentals and the structural plan checking of wood frame buildings based on the Uniform Building Code.

760 California Energy Regulations (3) *Three lecture hours per week.* Methods of compliance with energy regulations applicable to dwellings, apartments, condominiums, and hotels. Includes heat transfer, insulation, weather stripping, climate control systems, water heating, mandatory requirements, computer compliance, point system, component packages, appliance regulations, and solar systems.

770 Contractor's License and Law (3) *Three lecture hours per week. Prerequisite: experience in the construction field.* Introduction to the legal requirements for a contractor's license and a study of the contractor's obligations to clients.

780 Non-Residential Energy Regulations (3) *Three lecture hours per week.* Methods

of complying with energy regulations applicable to non-residential buildings. First and second generation regulations (offices, stores, grocery stores). Includes heat transfer, solar gain, mandatory requirements, heating and cooling design, ventilation and fan requirements, lighting-load calculations, energy budgets, component packages, and appliance regulations.

785 Introduction to Inspection Techniques for Home and Commercial Properties (3) *Three lecture hours per week.* Introduction to inspection for home and commercial properties including roof, foundation, plumbing, electrical and mechanical systems, walls, ceilings, floors, appliances, safety devices, security requirements, non-conforming additions to existing properties, structural termite reports and pest control. Review of common problems associated with inspection.

790 Blueprint Reading for Construction (3) *Three lecture hours per week.* Reading, understanding, and interpreting architectural plans for residential and commercial construction.

880 - 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Business

100 Contemporary American Business (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Current concepts of American business from the business perspective. Examination of societal issues affecting business in a dynamic economic environment. Includes the nature of major business functions and the roles of producer and consumer in the economy. (CSU/UC)

101 Human Relations I (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Designed to increase competence in personal and interpersonal skills, which are critical prerequisites for a successful career in business. Covers perception, self-management, self-image, communication, prejudice, conflict management, leadership, and resistance to change. (CSU)

102 Human Relations II (3) *Three lecture hours per week. Prerequisite: BUS. 101.* Emphasizes self-directed learning of concepts and skills related to increased personal and professional effectiveness. Topics, generated from instructor and class interaction,

focus on human relations issues of immediate concern to those taking the class. Requires student participation and involvement greater than that of the first semester course. (CSU)

115 Business Mathematics (3) *Three lecture hours per week. Prerequisite: appropriate skill level as measured by a satisfactory score on CSM Math Placement Test One and other measures. Recommended Preparation: BUS. 810.* Study of mathematics as applied to business, with emphasis on calculations involving interest, discount, negotiable instruments, financial statements and ratios, inventory pricing, depreciation, payroll, income tax, central tendency, and correlation. (CSU)

129 Machine Calculation (1) *Three lab hours per week plus two lab hours by arrangement per week for eleven weeks. Recommended Preparation: BUS. 810.* Instruction in the touch system on the printing calculator, the electronic display calculator, and the microcomputer 10-key pad. (CSU)

131 Money Management (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Develops understanding and skill in dealing with consumer financial planning, saving and borrowing money, real estate and introduction to security investments, estate planning, and income tax preparation. (CSU)

140 Security Investments (3) *Three lecture hours per week. Recommended Preparation: MATH 811 and eligibility for ENGL 800.* Stocks, bonds, and investment trusts; investment policies, evaluation and charting. (CSU)

150 Small Business Management (3) *Three lecture hours per week. Prerequisite: BUS. 100 or equivalent. Recommended Preparation: eligibility for ENGL 800.* Examination of the opportunities and hazards of small business operation. Designed for business students who plan to establish or supervise a small business. Explores significant areas of vital interest to the prospective independent businessperson, including pre-opening requirements. (CSU)

155 Small Business Problem Solving (.5) *(Open entry/open exit.) (Credit/No Credit grading.) Total of eight lecture hours by arrangement.* For individuals interested in starting a business and for small business owners who may be experiencing problems in marketing, management, finance, and related areas. (To increase competency, may

be taken three times for a maximum of 1.5 units.) (CSU)

156 Case Study Lab (1) *One lab hour by arrangement per week. Corequisite: concurrent enrollment in day section of BUS. 150.* Students work with an assigned small business or an individual considering going into business to assist with problem-solving. Semester report required at conclusion. (CSU)

170 Salesmanship Fundamentals (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* The role and impact of personal selling in the marketing process. Considers principles and techniques employed effectively in the direct sales process. (CSU)

175 Advertising (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* The role of advertising in our economic life, with emphasis on advertising methods and media. (CSU)

180 Marketing (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Broad study of marketing principles and methods applicable to both consumer and industrial goods and services. Includes retailing and wholesaling consumer goods, marketing industrial goods, marketing policies and practices, and government relationship to marketing. (CSU)

201 Business Law I (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Introduction to the study of business law, including sources, agencies, and enforcement procedures. Emphasizes the ability to understand and review simple contracts and a basic understanding of contract law. Discusses sales warranties and consumer protection legislation. (CSU/UC) (CAN BUS 8)

295 Computer Systems in Business (4) *Three lecture and two lab hours plus one lab hour by arrangement per week. Prerequisites: BUSD 401 or equivalent; MATH 120 or equivalent; and concurrent enrollment in or completion of ACTG 100 or 121. Recommended Preparation: eligibility for ENGL 800.* Introduction to business computers; principles of computer operations and system design. Flowcharting, writing, running, and debugging programs in BASIC for accounting and management. Use of microcomputer software applications for word processing, spreadsheets (Lotus 1-2-3), and database management. (CSU) (CAN BUS 6)

305 Micro/Keyboarding: Beginning (2) *Three lecture hours plus two lab hours by arrangement per week for eleven weeks.* Beginning course to develop keyboard skills by touch and to teach proper keyboarding/typing techniques for microcomputers and electronic typewriters. (CSU)

306 Micro/Keyboarding: Skillbuilding (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks. Prerequisite: BUS. 305 or equivalent skill level.* Speed and accuracy development for all levels of competency. (To increase competency, may be taken twice for a maximum of 2 units.) (CSU)

307 Micro/Keyboarding: Formatting (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks. Prerequisite: BUS. 305 or equivalent skill level.* Skill development in formatting letters, memos, reports, and tabulated material from a variety of source documents on microcomputers. (CSU)

315 Keyboarding I (3) *Three lecture hours per week plus two lab hours by arrangement per week.* Beginning course for students to learn to input and process information using a computer keyboard. Includes keyboarding by touch, speed and accuracy, basic word processing techniques, basic formatting, and printing. (CSU)

325 Electronic Filing and Records Management (2) *Three lecture hours plus two lab hours by arrangement per week for eleven weeks.* Develops record management skills—creating, maintaining, and managing data records—using alphabetic, numeric, geographic, and subject filing. Includes practice in microcomputer filing applications and data management experience. (CSU)

401 Business Communications (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800 and ability to type.* Comprehensive review of grammar, punctuation, and vocabulary used in business. Identifies, explains, and develops the communication skills and tools that contribute to effective verbal and written communications. Instruction includes exercises using microcomputers. (CSU)

641 Cooperative Education (1-4) (See first page of Description of Courses section.) (CSU)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

701 How to Begin/Finance a Small Business (1) *(Credit/No Credit or letter grade option.) Total of sixteen lecture hours.* For people considering opening a small business as well as for those currently in small business. Entrepreneurial qualities and fundamentals of opening and operating a successful small business. Developing a business plan; legal aspects; sources of capital; loan packages; and financing a small business. (CSU)

702 The Business Plan for Small Business (1.5) *(Credit/No Credit or letter grade option.) Three lecture hours per week for eight weeks.* Development of a comprehensive business plan. Includes establishing business goals, financial projection, marketing research, product development, and personnel management. (CSU)

705 Marketing and Sales/Small Business (1) *(Credit/No Credit or letter grade option.) Total of sixteen lecture hours.* For people considering or currently operating a small business. Examines marketing and promotion techniques, sales strategies, and techniques for small businesses. (CSU)

711 Taxes and the Small Business Owner (.5) *(Credit/No Credit grading.) Three lecture hours per week for three weeks.* Designed for business owners and individuals responsible for compliance with tax regulations. Covers practical aspects of record keeping as well as completing and submitting tax forms and schedules. (CSU)

720 Management/Motivation Strategies for Small Business (1) *(Credit/No Credit or letter grade option.) Total of sixteen lecture hours.* Examines management techniques, motivation guidelines, and current issues relevant to opening/operating a small business; franchising, family-owned and home business, and computer selection. (CSU)

723 Computers in Small Business (.5) *(Credit/No Credit grading.) Three lecture hours per week for three weeks.* Designed to help small business owners/managers identify computer needs, review techniques for control of business, and develop a plan for acquiring and implementing a computer system. (Units do not apply toward AA/AS degree.)

810 Business Arithmetic (3) *Three lecture hours per week. Prerequisite: completion of CSM Math Placement Test One (a score of less than 26 equals recommendation to en-*

roll in BUS. 810). Fundamental arithmetic operations as applied to ordinary problems of business. Includes the basic processes, fractions, decimals, and percentages. (Units do not apply toward AA/AS degree.)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Business Microcomputer Applications

Business Applications - DOS Platform (BUSD)

101 Introduction to Microcomputers Using DOS (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks. (Credit/No Credit grading.) Prerequisite: knowledge of keyboard. Recommended Preparation: eligibility for ENGL 800.* Introduction to microcomputers, including components of a microcomputer system and disk operating system. Develops a familiarity with business application software, including fundamentals of word processing, spreadsheets, and data base management software programs. (To increase competency, may be taken twice for a maximum of 2 units.) (CSU)

111 DOS Fundamentals I (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks. Recommended Preparation: eligibility for ENGL 800.* Introduction to purpose and use of DOS (disk operating system). DOS commands to manage files and disks. File management including creating, naming, copying and deleting files. Disk management including creation and management of subdirectories. (To increase competency, may be taken twice for a maximum of 2 units.) (CSU)

112 DOS Fundamentals II (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks. Prerequisite: BUSD 111 or equivalent.* DOS commands to manage the operating system. Configuring the operating system, redirection of command input and output, use of DOS text editors, and introduction to batch file programming. (CSU)

116 DOS Applications I (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks. Prerequisite: BUSD 112.* Review of advanced DOS techniques using current DOS upgrades to control business application programs and to organize subdirectory structure for hard disk management. (CSU)

201 Word Processing I Using WordPerfect for DOS (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks. Prerequisite: BUS. 305 or equivalent. Recommended Preparation: eligibility for ENGL 800.* Introduction to WordPerfect software. Emphasizes preparing and editing business documents (using insert, delete, copy, and move functions), formatting, and printing. (To increase competency, may be taken twice for a maximum of 2 units.) (CSU)

202 Word Processing II Using WordPerfect for DOS (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks. Prerequisite: BUSD 201. Recommended Preparation: eligibility for ENGL 800.* Increased text editing proficiency using WordPerfect software. Emphasizes sub directories, merge, macros, and graphics. (CSU)

203 Word Processing III Using WordPerfect for DOS (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks. Prerequisite: BUSD 202 or equivalent.* Use of WordPerfect software advanced features such as tables, columns, multipage features, and conversions. (CSU)

311 Desktop Publishing I Using WordPerfect for DOS (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks. Prerequisite: BUSD 203 or equivalent.* Introduction to the basic capabilities and terminology of desktop publishing. Text entering, editing, saving, and printing using an IBM-PC. Creation of simple documents such as a newsletter. (To increase competency, may be taken twice for a maximum of 2 units.) (CSU)

312 Desktop Publishing II Using WordPerfect for DOS (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks. Prerequisite: BUSD 311.* Continuation of BUSD 311. Planning, designing, creating, editing, and printing of business documents. Emphasizes page makeup and formatting for producing final copy printouts. Includes instruction in transferring information and graphs from other programs. (To increase competency, may be taken twice for a maximum of 2 units.) (CSU)

401 Spreadsheet I Using Lotus 1-2-3 for DOS (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks. Prerequisite: BUSD 101 or equivalent. Recommended Preparation: eligibility for ENGL 800.* Fundamentals of an electronic spreadsheet. Emphasizes building a work-

sheet using basic commands which include copying, formatting, identifying ranges, formula functions, and printing. (CSU)

402 Spreadsheet II Using Lotus 1-2-3 for DOS (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks. Prerequisite: BUSD 401. Recommended Preparation: eligibility for ENGL 800.* Intermediate spreadsheet applications, using increasingly complex models and utilizing database functions, data query, macros, and graph applications. (CSU)

403 Spreadsheet III Using Lotus 1-2-3 for DOS (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks. Prerequisite: BUSD 402.* Writing and using macros to automate spreadsheet keystrokes; naming and invoking techniques; preparing macro menus. (CSU)

404 Spreadsheet IV Using Lotus 1-2-3 for DOS (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks. Prerequisite: BUSD 403 or equivalent.* Advanced spreadsheet techniques including efficient spreadsheet design, complex data relationships, detection and correction of spreadsheet errors, high-level functions and macros, relative and absolute addressing. Case study approach using accounting and financial applications. (CSU)

461 Database Management Fundamentals I Using dBASE for DOS (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks. Prerequisite: BUSD 101 or equivalent. Recommended Preparation: eligibility for ENGL 800.* Introduction to database creation and applications for business to create forms, edit data, search for specific information, and print reports. (To increase competency, may be taken twice for a maximum of 2 units.) (CSU)

462 Database Management Fundamentals II Using dBASE for DOS (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks. Prerequisite: BUSD 461.* Advanced database applications. Includes data checking, processing and sorting, and producing reports. (CSU)

463 Database Management Fundamentals III Using dBASE for DOS (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks. Prerequisite: BUSD 462.* Completion of database fundamentals. Relational databases, generation of simple business applications, implications of SQL. (CSU)

(CSU) Transferable to California State Universities, (UC) Transferable to University of California, (*) With limitations

466 Database Management Applications I Using dBASE for DOS (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks. Prerequisite: BUSD 462 or experience in dBase; ability to create and modify databases and their reports and to use filters for conditions and indexes.* Uses a computerized database as a tool for reaching business objectives and solving identified problems (accounts receivable, payroll, inventory control, etc.). Students create an automated business database, identify design issues, create and test design, document the program, evaluate it for effectiveness, and develop implementation strategies. (CSU)

501 LAN Business Applications Using Novell NetWare (2) *Three lecture hours plus two lab hours by arrangement per week for eleven weeks. Prerequisite: knowledge of DOS.* Networking computers to share business software such as electronic mail, multi-tasking operations, telecommunication, and word processing. Includes hands-on experience in maintaining connected systems and software. (To increase competency, may be taken twice for a maximum of 4 units.) (CSU)

503 LAN Application Software Installation (1) *Three lecture hours plus one lab hour by arrangement per week for 5-1/3 weeks. Prerequisite: BUSD 501 or CIS 150.* Hands-on course covering the selection and installation of LAN-based business application software. Also includes licensing, file and record locking, use of shared printers, security, and integrating various software into an efficient network environment. (CSU)

510 LAN Management Using NetWare 3.x (2) *(Credit/No Credit or letter grade option) Three lecture hours plus one lab hour by arrangement per week for 10-2/3 weeks. Prerequisite: BUSD 501 or CIS 150.* In-depth, hands-on course covering the duties associated with management of a LAN using Novell NetWare 3.x, including user support, security, backup, diagnostics, and billing methods. Preparation for Novell certification exam. (CSU)

512 LAN Management Using NetWare 4.x (3) *(Credit/No Credit or letter grade option) Three lecture hours plus one lab hour by arrangement per week. Prerequisite: BUSD 501 or CIS 150.* In-depth, hands-on course covering the basic tasks associated with managing a LAN using Novell NetWare 4.x, including NetWare

Directory Services, user accounts, security and user support. Preparation for Novell certification exam. (CSU)

530 Telecommunications for Business (1.5) *Three lecture hours plus two lab hours by arrangement per week for eight weeks.* Use of telecommunications software to send and receive business data using a modem and a fax modem. Includes file transfer and file transfer protocols, E-mail, electronic bulletin boards, and the use of information services at an introductory level. Emphasizes the use and understanding of telecommunications from an end-user perspective. (CSU)

591 Problem Solving Using Software Integration for DOS (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks. Prerequisites: BUSD 202 or BUSW 202 or 212; BUSD 402 or BUSW 412; BUSD 462, 111; or equivalent.* Introduction to use of PC technology in business problem-solving by integrating the three main software applications. Includes survey of programs and available packages, problem-solving techniques, and the integration process. (To increase competency, may be taken twice for a maximum of 2 units.) (CSU)

680 – 689 Selected Topics (1-3) See first page of Description of Courses section. (CSU)

880 – 889 Selected Topics (1-3) See first page of Description of Courses section.

Business Applications - Macintosh Platform (BUSM)

211 Word Processing I Using WORD for Macintosh (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks. Prerequisites: BUS. 305 or equivalent; CIS 160 or familiarity with the Macintosh.* Introduction to WORD software. Emphasizes preparing and editing business documents (using insert, delete, copy and move functions), formatting, and printing. (To increase competency, may be taken twice for a maximum of 2 units.) (CSU)

212 Word Processing II Using WORD for Macintosh (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks. Prerequisite: BUSM 211 or equivalent.* Increased text-editing proficiency using WORD. Emphasizes advanced text control, page formatting, merging, and using columns. (CSU)

213 Word Processing III Using WORD for Macintosh (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks. Prerequisite: BUSM 212 or equivalent.* Use of WORD advanced features. Includes footnotes, outlines, tables of contents, glossaries, line draw, and style sheets. Emphasizes desktop publishing features, including font changes and graphics. (CSU)

411 Spreadsheet I Using Excel for Macintosh (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks. Prerequisite: CIS 160 or equivalent. Recommended Preparation: eligibility for ENGL 800.* Fundamentals of an electronic spreadsheet. Emphasizes building a worksheet using basic commands which include copying, formatting, identifying ranges, formula functions, and printing. (To increase competency, may be taken twice for a maximum of 2 units.) (CSU)

412 Spreadsheet II Using Excel for Macintosh (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks. Prerequisite: BUSM 411. Recommended Preparation: eligibility for ENGL 800.* Advanced spreadsheet applications, using increasingly complex models and utilizing database functions, data query, macros, and graph applications. (CSU)

413 Spreadsheet III Using Excel for Macintosh (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks. Prerequisite: BUSM 412.* Writing and using macros to automate spreadsheet keystrokes; naming and invoking techniques; preparing macro menus. (CSU)

680 – 689 Selected Topics (1-3) See first page of Description of Courses section. (CSU)

880 – 889 Selected Topics (1-3) See first page of Description of Courses section.

Business Applications - Windows Platform (BUSW)

111 Windows Fundamentals I (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks. Prerequisite: BUSD 101 or equivalent.* Introduction to Microsoft Windows. Emphasizes the use of Windows in a business environment. Includes the use of file management, the integration of business software applications, and Window's relationship to the disk operating system. (To increase competency, may be taken twice for a maximum of 2 units.) (CSU)

112 Windows Fundamentals II (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks. Prerequisite: BUSW 111 or equivalent.* Emphasizes the use of advanced Windows techniques in a business environment. Include the use of advanced file management and the integration of Windows software applications. Also includes the multitasking capabilities of Windows. (To increase competency, may be taken twice for a maximum of 2 units.) (CSU)

201 Word Processing I Using WordPerfect for Windows (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks. Prerequisite: BUS. 305 or equivalent. Recommended Preparation: eligibility for ENGL 800.* Introduction to WordPerfect for Windows software. Emphasizes preparing and editing business documents (using insert, delete, copy, and move functions), formatting, and printing. (To increase competency, may be taken twice for a maximum of 2 units.) (CSU)

202 Word Processing II Using WordPerfect for Windows (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks. Prerequisite: BUSW 201. Recommended Preparation: eligibility for ENGL 800.* Increased text editing proficiency using WordPerfect for Windows software. Emphasizes sub directories, merge, macros, and graphics. (CSU)

203 Word Processing III Using WordPerfect for Windows (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks. Prerequisite: BUSW 202 or equivalent.* Use of WordPerfect for Windows software advanced features such as tables, columns, multi-page features, and conversions. (CSU)

211 Word Processing I Using WORD for Windows (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks. Prerequisite: BUS. 305 or equivalent.* Introduction to WORD for Windows software. Emphasizes preparing and editing business documents (using insert, delete, copy and move functions), formatting, and printing. (To increase competency, may be taken twice for a maximum of 2 units.) (CSU)

212 Word Processing II Using WORD for Windows (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks. Prerequisite: BUSW 211 or equivalent.* Increased text-editing proficiency using WORD for Windows. Empha-

sizes advanced text control, page formatting, merging, and using columns. (CSU)

213 Word Processing III Using WORD for Windows (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks. Prerequisite: BUSW 212 or equivalent.* Use of WORD for Windows advanced features. Includes footnotes, outlines, tables of contents, glossaries, line draw, and style sheets. Emphasizes desktop publishing features, including font changes and graphics. (CSU)

311 Desktop Publishing I Using WordPerfect for Windows (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks. Prerequisite: BUSW 203 or equivalent.* Introduction to the basic capabilities and terminology of desktop publishing. Text entering, editing, saving, and printing using an IBM-PC. Creation of simple documents such as a newsletter. (To increase competency, may be repeated one time for credit.) (CSU)

312 Desktop Publishing II Using WordPerfect for Windows (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks. Prerequisite: BUSW 311.* Continuation of BUSW 311. Planning, designing, creating, editing, and printing of business documents. Emphasizes page makeup and formatting for producing final copy printouts. Includes instruction in transferring information and graphs from other programs. (To increase competency, may be taken twice for a maximum of 2 units.) (CSU)

381 Business Presentations I for Windows (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks. Prerequisite: BUSW 112, 203 or equivalent.* Introduction to preparing effective business presentations using a micro-computer and presentation software. Covers identifying and comparing components of common business presentations, learning basic features of a presentation software program and integrating text and graphics to create simple slides for enhancing presentations. (CSU)

382 Business Presentations II for Windows (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks. Prerequisite: BUSW 381 or equivalent.* Continuation of BUSW 381. Covers identifying the steps for preparing a complete business presentation; learning advanced features of a presentation software program; planning, designing and creating a

total business presentation by combining the presentation software with word processing and other programs. (CSU)

411 Spreadsheet I Using Excel for Windows (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks. Prerequisite: BUSD 101 or equivalent. Recommended Preparation: eligibility for ENGL 800.* Fundamentals of an electronic spreadsheet. Emphasizes building a worksheet using basic commands which include copying, formatting, identifying ranges, formula functions, and printing. (To increase competency, may be taken twice for a maximum of 2 units.) (CSU)

412 Spreadsheet II Using Excel for Windows (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks. Prerequisite: BUSW 411. Recommended Preparation: eligibility for ENGL 800.* Intermediate spreadsheet applications, using increasingly complex models and utilizing database functions, data query, macros, and graph applications. (CSU)

413 Spreadsheet III Using Excel for Windows (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks. Prerequisite: BUSW 412.* Writing and using macros to automate spreadsheet keystrokes; naming and invoking techniques; preparing macro menus. (CSU)

680 – 689 Selected Topics (1-3) See first page of Description of Courses section. (CSU)

880 – 889 Selected Topics (1-3) See first page of Description of Courses section.

Career and Life Planning

101-102-103 College Re-Entry I, II, III (1-1-1) (*Credit/No Credit grading.*) *Three lecture hours per week for 5-1/3 weeks.* Designed for adults whose education has been interrupted. Includes analysis of present abilities and interests; investigation of new directions and objectives; investigation of career opportunities; development of college-level study skills; and guidance and counseling for meeting new goals. (CSU)

112 Voyages: Career and Life Planning (2) (*Telecourse.*) (*Credit/No Credit or letter grade option.*) *Recommended Preparation: eligibility for ENGL 800.* For those who are undecided about career goals or are changing their career direction. Stresses the

significance of clearly defined values and the development of strategies and goals for life work. (CSU)

133 Career Choices (.5-1) (*Credit/No Credit grading.*) (*Open entry/open exit*) *Eight to sixteen lecture hours plus a total of three to six lab hours by arrangement.* An open-entry career exploration course covering the process of career assessment and job search preparation. Emphasis is on collecting career and labor market information which will assist in making career decisions. May include a variety of tests to appraise aptitudes, interests, and values.

137 Life and Career Planning (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* A comprehensive approach to life and career planning. Emphasizes self-assessment, goal and value clarification, decision-making, and techniques for dealing with change. Explores career options and job search techniques. (CSU)

138 Skill Development for Career Growth (3) (*Credit/No Credit or letter grade option.*) *Three lecture hours per week.* A practical, contemporary, and diversified approach to maintaining a healthy, purposeful, well-balanced life. Emphasizes the importance of developing effective personal skills for career growth. (CSU)

140 Peer Counseling (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* An orientation and training course to develop peer counseling skills, emphasizing the experiential process of interpersonal communication as well as the theoretical explanation of the counseling process and behavior. Students may be given the opportunity to do volunteer peer counseling work on campus or in the community. (CSU)

141 Peer Relations and Community Service (1) (*Credit/No Credit grading.*) *Three lecture hours per week for 5-1/3 weeks. Recommended Preparation: eligibility for ENGL 800.* An orientation and training course to develop counseling skills, including principles of counseling and helping skills. Emphasizes the importance of group interaction, personal and interpersonal growth and understanding empathic communication skills. (CSU)

401 Introduction to College (1) (*Credit/No Credit or letter grade option.*) *Two lecture hours per week for eight weeks.* Designed to instruct and assist students in skill assessment, educational planning, and

career development. (CSU)

402 Honors Seminar "A" (1) *One lecture hour per week. Prerequisite: admission to Honors Program.* Introduction to college. The process and tradition of academic scholarship. The techniques of learning, research, and student skills. (Fall only.) (CSU)

404 Honors Seminar "B" (1) *One lecture hour per week. Prerequisite: admission to Honors Program.* Introduction to scholarship. An interdisciplinary course which introduces students to contemporary research and scholarship in various fields of study. Taught by college faculty from various departments. Interconnectedness of scholarship emphasized. (Spring only.) (CSU)

406 Athletic Guidance Seminar (2) (*Credit/No Credit or letter grade option.*) *Two lecture hours per week.* Designed to assist student athletes in identifying values, educational and career goals, and transfer and eligibility requirements. Offered primarily for students competing in intercollegiate athletics and should be taken prior to or during the first semester of competition. (CSU)

410 College and Career Awareness (2) *Two lecture hours per week. Open to all students but strongly recommended for entering freshmen enrolled in general courses with an "undecided" major or for students who wish to verify their career and educational choice.* Acquaintance with campus facilities and activities, improvement of study habits and skills, educational planning toward a realistic, meaningful goal. Career planning to discover potential talents by means of tests measuring new interests and aptitudes. (CSU)

430 Career Exploration (1) (*Credit/No Credit grading.*) *Three lecture hours per week for 5-1/3 weeks plus a total of six lab hours by arrangement.* Designed for those who wish to decide a college major, set career goals, or change careers. Self-assessment of interests, values, skills, and personality characteristics using a variety of tests and exercises. Assistance in exploration of majors and careers, effective decision making, and career planning. (CSU)

680 - 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

880 - 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Chemistry

Unless otherwise indicated, a grade of C or higher is required for all prerequisite courses.

100 Survey of Chemistry (3) *Three lecture hours per week. Prerequisite: one semester of high school level algebra or equivalent. (This course is designed for non-science majors and is not open to students who have had or are taking CHEM 210.)* Study of matter; survey of the chemical concepts and phenomena commonly encountered. (CSU/UC*)

192 Elementary Chemistry (4) *Three lecture and three lab hours per week. Prerequisite: MATH 110 or one year of high school algebra. It is recommended that students enroll concurrently in MATH 115 or MATH 120 or 122.* Chemical nomenclature and formula writing, and mathematical review, including logarithms and exercises in calculation relating to chemistry. (Provides preparation for students who do not have adequate preparation for CHEM 210 or 224.) Extra supplies may be required. (CSU/UC*)

210 General Chemistry I (5) *Three lecture and six lab hours per week. Prerequisites: CHEM 192 OR high school chemistry with lab and MATH 120 or equivalent high school mathematics. Recommended Preparation: high school physics and eligibility for ENGL 800.* Basic principles of atomic and molecular structure and bonding. Chemical reactions and equations, solutions, gas laws, stoichiometry, and related calculations. Extra supplies may be required. (Intended for students majoring in science fields and chemical engineering.) Students who complete CHEM 210-220 and CHEM 224-225 will receive credit for CHEM 210-220 only. (CSU/UC*) (CAN CHEM 2) (CHEM 210 and 220 = CAN CHEM SEQ A)

220 General Chemistry II (5) *Three lecture and six lab hours per week. Prerequisite: CHEM 210.* Descriptive chemistry of the elements and qualitative analysis. Introduction to nuclear chemistry and detailed treatment of electrochemistry, thermodynamics, coordination compounds, equilibrium, and kinetics. Extra supplies may be required. Students who complete CHEM 210-220 and CHEM 224-225 receive credit for CHEM 210-220 only. (CSU/UC*) (CAN CHEM 4) (CHEM 210 and 220 = CAN CHEM SEQ A)

224 Engineering Chemistry I (4) *Three lecture and three lab hours per week. Prerequisites: CHEM 192 OR high school chemistry with lab; MATH 120 or equivalent high school mathematics. Recommended Preparation: high school physics and eligibility for ENGL 800.* Mole concept and stoichiometry, solutions, gas laws, phase changes, thermochemistry, and related calculations. Extensive coverage of atomic theory, intermolecular and intramolecular bonding, with emphasis on applications to materials science. Extra supplies may be required. Students who complete CHEM 210-220 and CHEM 224-225 will receive credit for CHEM 210-220 only. (CSU/UC*)

225 Engineering Chemistry II (4) *Three lecture and three lab hours per week. Prerequisite: CHEM 224.* Detailed treatment of thermodynamics, equilibrium, electrochemistry, kinetics, and chemistry of complexes; introduction to nuclear chemistry. Extra supplies may be required. Students who complete CHEM 210-220 and CHEM 224-225 receive credit for CHEM 210-220 only. (Spring only.) (CSU/UC*)

231 Organic Chemistry I (5) *Three lecture hours, one recitation hour, and five lab hours per week. Prerequisite: CHEM 220 or 225.* Introduction to basic concepts of structure and reactivity of organic compounds; reactions of major functional groups; reaction mechanisms; and synthesis. Principles and practice of laboratory techniques; methods of separation, purification, and synthesis. Theory and practice of instrumental methods, including spectroscopy. Designed as the first semester of a one-year organic course or as a one-semester survey. Extra supplies may be required. (CSU/UC)

232 Organic Chemistry II (5) *Three lecture hours, one recitation hour, and five lab hours per week. Prerequisite: CHEM 231.* More rigorous treatment of mechanisms, reactions, and synthesis; structure determination using classical and spectroscopic methods. Laboratory work implements techniques and skills taught in CHEM 231, including identification of unknown compounds and mixtures. Extra supplies may be required. (Spring only.) (CSU/UC)

250 Quantitative Analysis (4) *Two lecture and six lab hours per week. Prerequisite: CHEM 220. Recommended Preparation: eligibility for ENGL 800.* Theory, calculations and practice of common analytical procedures. Includes gravimetric and volumetric methods; also colorimetric,

potentiometric, and other instrumental procedures. Extra supplies may be required. (Spring only.) (CSU/UC) (CAN CHEM 12)

410 Health Science Chemistry I (4) *Three lecture and three lab hours per week. Prerequisite: MATH 110 OR high school algebra. Recommended Preparation: eligibility for ENGL 800.* Introduction to chemistry for the applied sciences, beginning with scientific measurement and the metric system, followed by chemical bonding, solution chemistry, acids and bases, redox reactions, gases, and general aspects of stoichiometry. Extra supplies may be required. Students who complete CHEM 210-220 and CHEM 410-420 will receive credit for CHEM 210-220 only. (CSU) (CAN CHEM 6)

420 Health Science Chemistry II (4) *Three lecture and three lab hours per week. Prerequisite: CHEM 410.* Completes the sequence, focusing on organic and biochemistry with special emphasis on the chemistry of carbohydrates, lipids, proteins, nucleic acids, and vitamins and their respective metabolism. Extra supplies may be required. Students who complete CHEM 210-220 and CHEM 410-420 will receive credit for CHEM 210-220 only. (CSU)

680 – 689 Selected Topics (1-3) See first page of Description of Courses section. (CSU)

690 Special Projects (1-2) See first page of Description of Courses section. (CSU)

880 – 889 Selected Topics (1-3) See first page of Description of Courses section.

Chinese

Language Laboratory and Listening Requirement: since imitation, response, and independent practice are integral features of the study of a foreign language at the College, students enrolled in certain courses in foreign language are required to use the language laboratory as prescribed by each department.

111 Elementary Chinese I (3) *Three lecture hours and one lab hour by arrangement per week.* A beginning course in Mandarin Chinese with instruction and practice in understanding, speaking, reading, and writing. (CSU/UC)

112 Elementary Chinese II (3) *Three lecture hours and one lab hour by arrangement per week. Prerequisite: CHIN 111 or*

equivalent with a grade of C or higher. A continuation of CHIN 111 with further development of the skills of understanding, speaking, reading, and writing. (CSU/UC)

121 Advanced Elementary Chinese I (3) *Three lecture hours and one lab hour by arrangement per week. Prerequisite: CHIN 112 or equivalent with a grade of C or higher.* The third course in elementary Mandarin, with continued emphasis on grammar and the spoken language. (CSU/UC)

122 Advanced Elementary Chinese II (3) *Three lecture hours and one lab hour by arrangement per week. Prerequisite: CHIN 121 or equivalent with a grade of C or higher.* A continuation of Chinese 121 with further training in spoken and written Mandarin. (CSU/UC)

131 Intermediate Chinese I (3) *Three lecture hours and one lab hour by arrangement per week. Prerequisite: CHIN 122 or equivalent with a grade of C or higher.* Approximately the first half of the semester's work in intermediate Mandarin Chinese as taught at four-year institutions. (CSU/UC)

132 Intermediate Chinese II (3) *Three lecture hours and one lab hour by arrangement per week. Prerequisite: CHIN 131 or equivalent with a grade of C or higher.* Approximately the second half of the semester's work in intermediate Mandarin Chinese as taught at four-year institutions. (CSU/UC)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Computer and Information Science

Unless otherwise indicated, a grade of C or higher is required for all prerequisite courses.

100 Computers and Society (2) *(Tele-course). (Credit/No Credit or letter grade option.) One thirty-minute television program and lab assignment per week for sixteen weeks plus three two-hour on-campus meetings.* "ComputerWorks" covers terminology, concepts, and common micro-

computer applications and prepares students to understand and utilize computers in both their personal and professional lives. IBM-compatible computers used to complete lab assignments for this course. (CSU)

110 Introduction to Computer and Information Science (3) (*Credit/No Credit or letter grade option.*) *Three lecture hours plus one lab hour per week by arrangement.* Introduction to information systems exploring the use of computers and the development of computer systems: hardware, software, common PC and Macintosh applications, and programming in BASIC. (CSU/UC*)

115 Introduction to Program Design (3) (*Credit/No Credit or letter grade option.*) *Three lecture hours per week.* *Prerequisite: MATH 110 or equivalent. Corequisite: concurrent enrollment in CIS 116.* Introduction to computer programming for non-CIS majors and CIS majors with no previous programming experience. Includes computer hardware and operating systems concepts necessary for program coding, compilation, and execution; problem solving techniques; structured program design methods and tools; program coding, testing, and implementation; and documentation issues and techniques. Uses a high-level language to explore control structures, modularization, data, operators, scope of variables, parameters, and arrays. (CSU/UC*)

116 Open Computer Lab (1) (*Credit/No Credit grading.*) *Three lab hours per week.* *Corequisite: concurrent enrollment in CIS 115.* Use of microcomputers to complete lab assignments for CIS 115. (CSU/UC*)

130 Introduction to Expert Systems (2) (*Credit/No Credit or letter grade option.*) *Two lecture hours per week.* *Prerequisites: CIS 115/116 or knowledge of a programming language. Corequisite: concurrent enrollment in CIS 131.* Introduction to fundamental principles, terms, and concepts of expert systems. Includes Artificial Intelligence, a survey of expert systems, user-oriented shells, natural language processing, knowledge acquisition, rule-based programming, and construction of a simple expert system. (CSU/UC*)

131 Open Computer Lab (1) (*Credit/No Credit grading.*) *Three lab hours per week.* *Corequisite: concurrent enrollment in CIS 130.* Use of microcomputers to complete lab assignments for CIS 130. (CSU/UC*)

150 Networks and Data Communications (3) (*Credit/No Credit or letter grade option.*) *Three lecture hours plus one lab hour per*

week by arrangement. *Prerequisite: CIS 110 or 115/116.* Basic principles of data communications and network concepts. Survey of common protocols and key elements needed to configure network systems, including local area networks. Also includes the use of data codes and their implications. (CSU)

152 Principles of Network Design and Management (3) (*Credit/No Credit or letter grade option.*) *Three lecture hours per week plus one lab hour per week by arrangement.* *Prerequisites: CIS 150 OR BUSD 501 and either 530 or 531.* Basic concepts of local and wide area network architecture, design, implementation, security, and management. Covers connectivity standards, bridging, routing, micro-to-mainframe links, and network administration responsibilities. Provides case studies of TCP/IP and Novell NetWare. Prepares interested students for Novell CNE Exam. (CSU)

154 Advanced Network Management with NetWare 3.x (3) (*Credit/No Credit or letter grade option.*) *Three lecture hours per week plus one lab hour per week by arrangement.* *Prerequisites: CIS 150 OR BUSD 501 and either 530 or 531. Recommended Preparation: CIS 152.* Advanced course in network management, specializing in the installation and management of large or complex LANs. In-depth study of hardware configuration, network expansion, advanced network management issues and practices, network optimization, customization of printing, and other processes on Novell's NetWare 3.x platform. Prepares interested students for Novell certification examinations. (CSU)

155 Advanced Network Management With NetWare 4.x (3) (*Credit/No Credit or letter grade option.*) *Three lecture hours per week plus one lab hour per week by arrangement.* *Prerequisites: CIS 150 or BUSD 501 and either 530 or 531; BUSW 111 or the equivalent, each with a grade of C or higher. Recommended Preparation: CIS 152.* Advanced course in network management for the NetWare 4.x operating system. Includes network design and setup, advanced network management issues and practices, network performance monitoring and optimization, customization of printing and other network processes. Prepares interested students for Novell certification examinations. (CSU)

156 Advanced Network Management with Windows NT (3) (*Credit/No Credit or letter grade option.*) *Three lecture hours per week plus one lab hour per week by*

arrangement. *Prerequisites: CIS 150 or BUSD 501 and 531; BUSW 111, 112 or equivalent, each with a grade of C or higher. Recommended Preparation: CIS 152.* Advanced course in network management for the Windows NT operating system. Includes hardware configuration, operating system installation, and management of large or complex LANs including network expansion, advanced network utilities, performance optimization and network printing. (CSU)

157 NetWare 3 Installation and Configuration (1) (*Credit/No Credit or letter grade option.*) *Four lecture hours per week for four weeks.* *Prerequisite: CIS 154.* Installation of the Novell NetWare 3 network operating system, upgrading from prior NetWare versions, installing workstation software, and configuring the system software. Includes network hardware requirements analysis. Prepares students for Novell CNE exam. (CSU)

160 Introduction to Macintosh (1) (*Credit/No Credit or letter grade option.*) *Total of twelve lecture and twelve lab hours.* Introduction to Macintosh operating system and user interface, with a survey of common applications, including word processing, graphics, and spreadsheet. (CSU)

170 HyperCard on the Macintosh I (1) (*Credit/No Credit or letter grade option.*) *Total of twelve lecture and twelve lab hours.* *Prerequisite: CIS 160 or familiarity with Macintosh computer.* Introduction to typical applications of HyperCard and authoring of HyperCard stacks. (CSU)

171 HyperCard on the Macintosh II (1) (*Credit/No Credit or letter grade option.*) *Total of twelve lecture and twelve lab hours.* *Prerequisite: CIS 170 or equivalent.* Continuation of CIS 170. Design and creation of HyperCard stacks and introduction to scripting with HyperTalk. (To increase competency, may be taken twice for a maximum of 2 units.) (CSU)

240 FORTRAN Programming (3) (*Credit/No Credit or letter grade option.*) *Three lecture hours per week.* *Prerequisite: MATH 130 or high school preparation including one semester of Trigonometry. Corequisite: concurrent enrollment in CIS 241.* Introduction to FORTRAN and its use in the solution of problems which can be modeled algebraically. Includes introduction to programming; algorithm development; representation of data; the syntax of specification, assignment, control, and I/O

statements; arrays; and subprograms. (CSU/UC*) (Completion of CIS 240 and 241 = CAN CSCI 4)

241 Open Computer Lab (1) (*Credit/No Credit grading.*) *Three lab hours per week. Corequisite: concurrent enrollment in CIS 240.* Use of microcomputers to complete lab assignments for CIS 240. (CSU/UC*) (Completion of CIS 240 and 241 = CAN CSCI 4)

250 Programming Methods I (Procedural C++) (3) (*Credit/No Credit or letter grade option.*) *Three lecture hours per week. Prerequisites: MATH 120 or equivalent; CIS 115/116 OR a semester programming course in high school or college OR six months of professional programming experience. Corequisite: concurrent enrollment in CIS 251.* Introduction to computer science and software engineering using the procedural components of the C++ programming language for CIS majors and computer professionals. C++ is an extension of C. This course emphasizes the non-object oriented C features of C++. Covers internal data representation, built-in data types, control structures, modularization, algorithm efficiencies, pointers, elementary data structures, bitwise operators, and libraries. Students are required to design, implement, and test computer programs using procedural-structured programming techniques in C++. (CSU/UC*) (CIS 250 and 251 = CAN CSCI 12)

251 Open Computer Lab (1) (*Credit/No Credit grading.*) *Three lab hours per week. Corequisite: concurrent enrollment in CIS 250.* Use of microcomputers to complete lab assignments for CIS 250. (CSU/UC*) (CIS 250 and 251 = CAN CSCI 12)

252 Programming Methods II (Object-Oriented C++) (3) (*Credit/No Credit or letter grade option.*) *Three lecture hours per week. Prerequisite: CIS 250/251 or one full year of C language professional programming experience. Corequisite: concurrent enrollment in CIS 253.* Continuation of Programming Methods I for CIS majors or computer professionals. Emphasizes the object-oriented features of C++. Includes classes and data abstraction, operator overloading, inheritance, virtual functions and polymorphism, stream input/output, templates, and dynamically linked data structures (linked lists, stacks, queues, and trees). Students are required to design, implement, and test computer programs using object-oriented programming techniques in C++. (CSU/UC*)

253 Open Computer Lab (1) (*Credit/No Credit grading.*) *Three lab hours per week. Corequisite: concurrent enrollment in CIS 252.* Use of microcomputers to complete lab assignments for CIS 252. (CSU/UC*)

272 Advanced C Programming (3) (*Credit/No Credit or letter grade option.*) *Three lecture hours per week. Prerequisites: CIS 250/251 or one full year of C language professional programming experience. Corequisite: concurrent enrollment in CIS 273.* Designed for the student in search of an understanding of advanced C programming. Includes bitwise operators and masking; advanced pointer issues; low-level concepts such as run-time environment, system stack, and stack frames; using recursion effectively; rules for expression evaluation; interfacing C with Assembly and other high-level languages; and advanced debugging techniques. Students are required to design, implement, and test computer programs using programming techniques in C. (CSU/UC*)

273 Open Computer Lab (1) (*Credit/No Credit grading.*) *Three lab hours per week. Corequisite: concurrent enrollment in CIS 272.* Use of microcomputers to complete lab assignments for CIS 272. (CSU/UC*)

290 Microcomputer Assembly Language Programming (3) (*Credit/No Credit or letter grade option.*) *Three lecture hours per week. Prerequisite: knowledge of a programming language. Corequisite: concurrent enrollment in CIS 291.* Includes computer organization, data representation, data structures, machine and assembly language programming, addressing techniques, subroutine linkage, assembly process, assembly directives, and macro definition and use. (CSU/UC*) (Completion of CIS 290 and 291 = CAN CSCI 10)

291 Open Computer Lab (1) (*Credit/No Credit grading.*) *Three lab hours per week. Corequisite: concurrent enrollment in CIS 290.* Use of microcomputers to complete lab assignments for CIS 290. (CSU/UC*) (Completion of CIS 290 and 291 = CAN CSCI 10)

304 Microsoft Windows Programming (3) (*Credit/No Credit or letter grade option.*) *Three lecture hours per week. Prerequisite: basic familiarity with Microsoft Windows/Graphical User Interface (GUI) and MS-DOS concepts, terminology and operation; completion of a first-semester C programming course or one year C programming experience. Corequisite: concu-*

rent enrollment in CIS 305. Uses C as the main programming language for classroom discussions and assignments. Includes introduction to the Microsoft Windows Application Programming Interface (API); Windows fundamentals: painting with text, the keyboard, the mouse, the timer, child Window controls; Windows resources: icons, cursors, bitmaps, strings, menus, accelerators, and dialog boxes; Windows memory management; the graphics device interface (GDI); data exchange and links. Students study Windows programming techniques and write Windows programs in C. (CSU)

305 Open Computer Lab (1) (*Credit/No Credit grading.*) *Three lab hours per week. Corequisite: concurrent enrollment in CIS 304.* Use of microcomputers to complete lab assignments for CIS 304. (CSU)

308 Visual Basic Programming (3) (*Credit/No Credit or letter grade option.*) *Three lecture hours per week. Prerequisites: basic familiarity with Microsoft Windows/Graphical User Interface (GUI) and MS-DOS concepts, terminology and operation; knowledge of a programming language such as BASIC, FORTRAN, Pascal or C. Corequisite: concurrent enrollment in CIS 309. Recommended Preparation: CIS 115, 250, or 304.* Introduction to graphical, event-oriented programming under Microsoft Windows; creating and using controls, menus and dialogs; managing projects; Visual Basic Programming fundamentals; variables, constants, and data types; objects and instances; responding to mouse events, creating graphics for applications, displaying and printing information; debugging and handling runtime errors; processing files. Selected advanced topics: multiple-document interface (MDI) applications; object linking and embedding (OLE); calling procedures in DLL's. Students will study Windows Visual programming techniques and write Windows programs in Visual Basic. (CSU/UC*)

309 Open Computer Lab (1) (*Credit/No Credit Grading.*) *Three lab hours per week. Prerequisite: concurrent enrollment in CIS 308.* Use of microcomputers to complete lab assignments for CIS 308. (CSU/UC*)

312 UNIX Operating Systems I (1) (*Credit/No Credit or letter grade option.*) *Two lecture and two lab hours per week for six weeks. Prerequisite: prior experience using computers.* Introduction to the UNIX operating system. Familiarizes students with the UNIX kernel, basic shell scripts, use of elementary commands, and common utili-

ties. Includes an overview of operating systems and their relationship to hardware and software, file management techniques, editing and printing and I/O controls. Uses a POSIX compliant operating system on microcomputers for hands-on activities. Students may use any POSIX compliant operating system to complete assignments. (CSU)

313 UNIX Operating Systems II (1) (*Credit/No Credit or letter grade option.*) *Two lecture and two lab hours per week for six weeks. Prerequisite: CIS 312 or hands-on familiarity with the content of that course.* Continuation of CIS 312, this course introduces more advanced features and utilities of UNIX, advanced script programming, configuration of the kernel, and extensive coverage of system administration tasks, from installation and set-up through daily system maintenance. Uses a POSIX compliant operating system on microcomputers for hands-on activities. Students may use any POSIX compliant operating system to complete assignments. (CSU)

320 Systems Analysis and Design (3) (*Credit/No Credit or letter grade option.*) *Three lecture hours per week. Prerequisite: knowledge of a programming language. Recommended Preparation: CIS 210/211.* Analysis of manual and computer-based systems from inception to implementation and evaluation. Includes data gathering, problem definition, cost/benefit analysis, I/O design, oral and written management presentations, hardware and software alternatives, and introduction to database concepts. Students analyze and design a system for a typical business application. (CSU)

360 Introduction to Database Management (3) (*Credit/No Credit or letter grade option.*) *Three lecture hours per week. Prerequisites: CIS 115/116 and a CIS 200- or 300-level course OR two CIS 200- or 300-level courses. Corequisite: concurrent enrollment in CIS 361.* Database management concepts focusing on the relational model. Covers data manipulation techniques based on the SQL standard, database design methodologies to handle any set of data requirements, and database administration issues with regard to control of centralized and distributed databases. Includes extensive use of a microcomputer DBMS to apply the theory to practical examples of database design, implementation, and manipulation. (CSU)

361 Open Computer Lab (1) (*Credit/No Credit grading.*) *Three lab hours per week. Corequisite: concurrent enrollment in CIS*

360. Use of microcomputers to complete lab assignments for CIS 360. (CSU)

372 Object-Oriented C++: Design and Advanced Topics (3) (*Credit/No Credit or letter grade option.*) *Three lecture hours per week. Prerequisite: CIS 252/253 or one full year of C++ language professional programming experience. Corequisite: concurrent enrollment in CIS 373.* Continuation of CIS 252 for computer science majors and computer professionals. Emphasizes object-oriented design and advanced topics in C++. Includes object-oriented design and analysis, sound C++ programming practices, exception handling, using class libraries, object-oriented data structures including the Container Class Library, advanced use of templates, multiple inheritance, and virtual functions. Students are required to design, implement, and test computer programs using programming techniques in C++. (CSU/UC*)

373 Open Computer Lab (1) (*Credit/No Credit grading.*) *Three lab hours per week. Corequisite: concurrent enrollment in CIS 372.* Use of microcomputers to complete lab assignments for CIS 372. (CSU/UC*)

641 Cooperative Education (1-4) (See first page of Description of Courses section.) (CSU)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Consumer Arts and Science

310 Nutrition (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Carbohydrates, proteins, fats, vitamins and minerals as related to health of the body. Includes personalized nutritional assessment. (May be substituted for HSCI 113 in meeting the Health Science requirement.) (CSU/UC) (CAN H EC 2)

641 Cooperative Education (1-4) (See first page of Description of Courses section.) (CSU)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Cooperative Education

Cooperative work experience education is offered in two basic programs: (1) the parallel plan, in which the student works and attends college classes during the same semester; and (2) the alternate semester plan, wherein the student can alternate between semesters of work and study. Under the parallel plan, students can earn up to four units of Cooperative Education credit per semester. Alternate semester students can earn up to eight units of Cooperative Education credit per semester of work. Students may choose between letter grading and Credit/No Credit grading. A letter grade will be awarded unless a student has submitted a request for Credit/No Credit grading to the Office of Admissions and Records by the deadline published in the class schedule. Cooperative Education is offered in the following fields: administration of justice, aeronautics, apprenticeship, architecture, business, broadcasting arts, building inspection, cosmetology, dental assisting, drafting technology, filmmaking, floristry, fire technology, government, horticulture, medical assisting, nursing, physical education, real estate, technical arts & graphics, transportation, as well as each major field of study.

641 Cooperative Education (1-4) (*Credit/No Credit or letter grade option.*) Work must be in a field related to a career goal or major, supplemented by individual counseling from an instructor/coordinator. Students may be eligible for up to 4 units of credit per semester, and the course may be taken up to 4 semesters to earn a maximum of 16 units of credit. The student must have new learning opportunities in order to repeat the course. Seventy-five hours of paid work (approximately 5 hours per week) or sixty hours of volunteer work (approximately 3.5 hours per week) is equivalent to one unit of credit. Enrollment in 7 units (of which Cooperative Education may be four of the seven) is mandatory. (CSU)

645 Cooperative Education/Alternate Semester (1-8) (*Credit/No Credit or letter grade option.*) Work must be in a field related to a career goal or major, supplemented by individual counseling from an instructor/coordinator. Students in the alter-

nate semester program may earn up to 8 units of Cooperative Education credit per semester. While enrolled in the alternate semester class, students are limited to taking only one other class. The program may be taken for credit up to a maximum of 16 units. Seventy-five hours of work (approximately 5 hours per week) is equivalent to one unit of credit. Students must have earned at least 7 units of credit in other course work before re-enrolling in Cooperative Education. The student must have new learning opportunities in order to repeat the course. (CSU)

647 Dental Assisting Cooperative Education (4) *Open to dental assisting students only.* Supervised work experience.

A practical application of skills learned in the academic classroom as applied to the areas of specialization to be selected by the Dental Assisting Coordinator. Sixty hours of volunteer work is equivalent to one unit of credit. Offered during spring semesters only. (CSU)

Real Estate Internship: See catalog Real Estate listings.

Honors Internship: Check with the Co-op Office or the Honors Program to see if you are eligible to earn transferable honors credit for your Co-op Internship.

Cosmetology

The courses described below are open only to those students accepted in the Cosmetology Program. Completion of the tenth grade or equivalent required by California Board of Cosmetology; completion of the twelfth grade is recommended. A grade of C or higher is necessary for progression in sequence. Upon successful completion of the program with a C or higher, including satisfactory performance on a comprehensive "mock board" examination including both theory and practical performance, the candidate receives a Certificate in Cosmetology and is eligible to write the California Board of Cosmetology examination. Note: Applicants for the California State Board of Cosmetology licensure must be 17 years of age or older.

641 Cooperative Education (1-4) (See first page of Description of Courses section.)

712 Fundamentals of Cosmetology I (.5-10)

722 Fundamentals of Cosmetology II (.5-10) *Five lecture and fifteen lab hours per week. Prerequisites: admission to and registration in the Cosmetology program. Corequisite: COSM 712 and 722 must be taken concurrently.* All subjects covered in COSM 712 and 722 are required for licensing as a cosmetologist by the California State Board of Cosmetology. (May be repeated for a maximum of 18 units.)

732 Advanced Cosmetology I (.5-10)

742 Advanced Cosmetology II (.5-10) *Five lecture and fifteen lab hours per week. Prerequisites: minimum of 10 units with a grade of C or higher in COSM 712 and 722. Corequisite: COSM 732 and 742 must be taken concurrently.* Continuation of Cosmetology 712 and 722. Cosmetology 732 and 742 are required for licensing as a cosmetologist. (May be repeated for a maximum of 30 units.)

750 Brush-Up (.5-10) *Up to five lecture and fifteen lab hours per week by arrangement for a total of 400 hours per year. Prerequisite: Cosmetology license or COSM 732 and 742 with a grade of C or higher OR Manicurist license or COSM 754 with a grade of C or higher.* For supplemental training requirements or out-of-state requirements. Course requirements must be met satisfactorily prior to state examination. (May be taken for a maximum of 20 units of credit.)

754 Manicuring (.5-8) *Up to four lecture hours and twelve lab hours per week. Prerequisite: admission to program prior to CSM registration; completion of 10th grade or equivalent; applicants for the California State Board of Cosmetology exam must be 17 years of age or older.* Training in the theory and practice of the art of manicuring, pedicuring, and artificial nails in preparation for licensing by the California State Board of Cosmetology in that field only. (May be repeated to meet State requirement for a maximum of 12 units.)

760 Cosmetology Instruction Preparation (.5-20) *Up to ten lecture and thirty lab hours per week by arrangement for a total of 600 hours. Prerequisites: satisfactory completion of an approved program of Cosmetology training with a minimum of 1600 hours and California Cosmetologist license.* Preparatory course of teaching techniques designed to qualify the student for the California State Board of Cosmetology Instructor examination. Requires the student to complete a 600-hour instructor training

certificate program. Up to 150 hours may be added to the training, if necessary, to correct deficiencies.

793 Current Hair Fashion and Techniques (1.5) *Two lecture and three lab hours per week for nine weeks. Prerequisite: California Cosmetologist license or completion of 600 hours of Cosmetology with a grade of C or higher.* Study of current hair fashions as presented by the National Hair Fashion Committee. Provides the cosmetologist with the skills to create the latest hair styles. (To increase competency, may be repeated for a maximum of 4.5 units of credit.)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Dance

(See Physical Education, Dance)

Dental Assisting

A grade of C or higher is necessary for progression in sequence. Upon successful completion of the program, the candidate is eligible to apply to the Office of Admissions and Records for a Certificate in Dental Assisting and to write the National Certification Examination and the California Registered Dental Assistant Examination. The program is open to part-time students.

647 Cooperative Education (4) (See first page of Description of Courses section.)

716 Dental Office Procedures (2.5) *Two lecture and two lab hours per week.* Perform basic dental office procedures, including telephone management, letter writing, appointment control, use of dental office software, dental office accounting procedures, management of recall systems, operation of office equipment, ethics, and jurisprudence.

721 Dental Materials I (3) *Two lecture and three lab hours per week.* Equipment and safety procedures necessary in the dental laboratory and operator. Physical properties, with study in dental cements, restorative impression materials, and gypsum products. Designed to develop skills necessary for manipulation in both the dental operator and laboratory. Study of the principles of prosthodontics. (Fall only.)

722 Dental Materials II (2) *One lecture hour and three lab hours per week.* Study of thermoplastic impression materials, dental casting alloys, removable prosthodontics, with special emphasis on dental assisting and registered dental assisting duties pertaining to dental materials. (Spring only.)

731 Dental Science I (3) *Three lecture hours per week.* Basic introduction to the hard and soft tissues of the oral cavity, tooth morphology, oral embryology, and oral histology. Pathological disturbances and pharmacology, with an introduction to oral health principles including nutrition.

732 Dental Science II (3) *Three lecture hours per week.* Further study in the hard and soft tissues of the oral cavity and anatomy of the head and neck. Introduction to the body systems, blood supply of the head and neck, and innervation of the teeth. (Spring only.)

735 Communication in Allied Health Professions (1) *One lecture hour per week.* Prepares allied health students to work and communicate effectively with patients, auxiliaries, practitioners, and other health professionals. (Fall only.)

740 Chairside Assisting I (3) *Two lecture hours and three lab hours per week.* Introduction to chairside procedures to be performed at the University of California and the University of the Pacific Schools of Dentistry. Beginning clinical application of chairside assisting techniques. Preparation of the patient and operatory area. Study of instrumentation, dental armamentarium, operative and fixed prosthodontic procedures, dental office emergencies, and public health dentistry. (Fall only.)

742 Chairside Assisting II (3) *Two lecture and three lab hours per week.* Further study in chairside procedures. Emphasizes students' individual development. Study of dental specialties; instrumentation, application, procedure, and patient instruction. Introduction to intra-oral functions. DA and RDA levels. Coronal Polish by arrangement. (Spring only.)

743 Coronal Polish (.5) *(Credit/No Credit grading.) Total of eight lecture and six lab hours. Prerequisites: concurrent enrollment in or completion of DENT 714 and 715 or 716, 721, 722, 731, 732, 735, 740, 742, 749, 751, and 763; ENGL 830; SPCH 850; COOP 647.* Designed to meet the requirements of the California State Board of Dental Examiners for the removal of stains and

soft deposits from the coronal surfaces of teeth.

749 Preclinical Dental Science Laboratory (.5) *Seven lab hours per week for four weeks. Prerequisites: concurrent enrollment in or completion of DENT 714 or 716, 721, 731, 735, 740, 751, 763; ENGL 830.* Introduction to chairside skills, dental charting, classification of cavities, prefixes, suffixes, rubber dam, local anesthesia, dental units, preparing and dismissing the dental patient, oral evacuation, and instrumentation. Prepares the dental assisting student for clinical procedures performed at the local dental schools.

751 Dental Clinic (1.5) *Seven lab hours per week for twelve weeks. Prerequisite: completion of or concurrent enrollment in DENT 714 or 716, 721, 731, 740, 749, and 763.* Introduction to and application of chairside skills; manipulation of dental materials and care of the dental patient. Held at local dental schools. (Fall only.)

763 Dental Radiology (2) *One lecture hour and three lab hours per week.* Designed to meet the standards established by the Board of Dental Examiners for the operation of dental radiographic equipment in California. Includes both didactic and clinic application, utilizing both DXTTR mannikin and patients. Study of radiation, legislation, effects and protection, exposing techniques for the adult, pedontic, mixed dentition, and edentulous patients, utilizing the various types of dental films, identification and correction of faulty films, developing and processing procedures, record maintenance, mounting and evaluation of films. Emphasizes the student's individual development. (A California State Dental X-ray License will be issued by the Dental Assisting Department to students who successfully complete this course with a grade of C or higher.)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Developmental Skills

811 Specific Learning Skills Assessment (.5) *(Credit/No Credit grading.) (Open entry/open exit) Eight lecture hours by arrangement.* Use of an assessment battery to determine specific learning capacity as well as academic skill levels in reading, spelling, and mathematics. Following assessment, students will design and imple-

ment, with the assistance of instructors, individual learning programs. (Units do not apply toward AA/AS degree.)

817 Adapted Computer-Assisted Instruction (.5-3) *(Credit/No Credit grading.) (Open entry/open exit) One and one-half to nine lab hours per week. Prerequisite: eligibility for Disabled Student Program and Services.* Adapted computer access and specialized computer-assisted instruction for students with visual, physical, or language impairments, learning disabilities, acquired brain injuries, or deafness. Provides disabled students with the opportunity to enlarge their learning potential and increase academic efficiency. No previous computer experience required. (Units do not apply toward AA/AS degree.)

819 Study Skills for Academic Success (1.0) *(Credit/No Credit grading.) Two lecture hours per week for eight weeks.* Designed to assist students with specific learning problems to obtain study skills and develop learning strategies to reach their educational objectives. Includes understanding learning styles, intervention strategies, time management, note taking, test preparation, memory techniques, critical thinking, and problem solving. (Units do not apply toward AA/AS degree.)

880 – 889 Selected Topics (1-3) See first page of Description of Courses section.

Drafting Technology

(Also see Machine Tool Technology and Manufacturing and Industrial Technology.)

Extra supplies required in all Drafting Technology courses.

100 Introduction to Computer-Aided Drafting (2) *One lecture hour and three lab hours per week. Prerequisite: one semester of college drafting (Drafting, Engineering Graphics, or Technical Arts and Graphics with a grade of C or higher).* Introduction to computer-aided drafting for students majoring in technical arts and graphics, architecture, engineering, and related majors. Basic operations of a personal computer and the application of CAD software. (CSU)

120 Principles of Technical Drawing (3) *Two lecture and four lab hours per week. Recommended Preparation: BUS. 305 or 306 and eligibility for ENGL 800.* Basic mechanical drawing with instruction

surveying the field of graphic communications. Technical sketching, visualization, descriptive geometry, orthographic projection, geometric construction, pictorial drawing methods, and sectional views; electromechanical and computer-aided drafting. (CSU)

121 Computer-Aided Drafting I (3) *Two lecture and four lab hours per week. Prerequisite: one semester of college drafting or equivalent. Recommended Preparation: BUS. 305 or 306.* A beginning AutoCAD course for students who have completed one semester of college drafting. Covers basic entities, edit commands, display controls, layering, text, dimensioning and isometric drawing. (CSU)

122 Computer-Aided Drafting II (3) *Two lecture and four lab hours per week. Prerequisite: DRAF 100 or 121.* Intermediate computer aided drafting for students who have completed a basic course in AutoCAD. Includes plotting, wireframe modeling, AutoCAD 3D modeling, Render, slide shows, blocks and attributes. (CSU)

123 Computer-Aided Drafting III (3) *Two lecture and four lab hours per week. Prerequisite: DRAF 122.* Advanced AutoCAD course. Covers advanced applications of AutoCAD including customizing menus and tablets and the use of Autolisp routines. (CSU)

201 Technical Drafting/CAD I (7) *Four lecture and nine lab hours per week plus one lab hour per week by arrangement. Prerequisite: DRAF 120 or equivalent. Recommended Preparation: BUS. 305 or 306.* Multi-view drawing, lettering, geometric shape description, sections, descriptive geometry, sketching, dimensioning, reproduction processes, charts, graphs, and an introduction to computer-aided drafting. (CSU)

202 Technical Drafting/CAD II (7) *Four lecture and nine lab hours per week plus one lab hour per week by arrangement. Prerequisites: DRAF 201 with a grade of C or higher.* Working drawings, detail and assembly drawings, threads and fasteners, gears, tolerancing, pictorial projections, intersections, developments, and basic CAD. (CSU)

301 Advanced Technical Drafting I (7) *Four lecture and nine lab hours per week plus one lab hour per week by arrangement. Prerequisite: DRAF 202 with a grade of C or higher.* Electrical and electronic drafting, logic diagrams, P.C. designs, pipings, and computer-aided drafting applications. (CSU)

302 Advanced Technical Drafting II (7) *Four lecture and nine lab hours per week plus one lab hour per week by arrangement. Prerequisite: DRAF 301 with a grade of C or higher.* Geometric and true-position tolerancing, cams, hydraulics, assembly drawings, jigs and fixture design, welding, structural drawings, and computer-aided drafting applications. (CSU)

400 Basic Technical Design (3) *Three lecture hours per week. Prerequisites: MANU 120.* Application of the materials covered in MANU 120 to the solution of design problems. Includes principles of design, mechanics, producibility, value engineering, computer-aided drafting, and computer-aided manufacturing. (CSU)

641 Cooperative Education (1-4) (See first page of Description of Courses section.) (CSU)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Economics

100 Principles of Macro Economics (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* The American economy; the price system; the role of business, labor, and government; the money and banking system; trends of national income and factors in its determination; problems and policies for stabilization and growth in an international economy. (CSU/UC) (CAN ECON 2)

102 Principles of Micro Economics (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Supply, demand, and price determination in a market economy; business firm's costs, revenues, and price policies under conditions of competition through monopoly; role of government in cases of market failure; determination of wages, rent, interest, and profits; international trade and finance; comparative economic systems of other nations. (CSU/UC) (CAN ECON 4)

123 Business-Economic Statistics (4) *Four lecture hours per week. Prerequisite: MATH 120 or equivalent with a grade of C or higher, or high school preparation*

including one and one-half years of algebra with grades of C or higher. Recommended Preparation: eligibility for ENGL 800. Designed for the Business and Economics major. Graphic presentation, measures of central tendency, dispersion, index numbers, time series, seasonal indexes, probability, hypotheses testing, type I and type II error, Chi-square goodness-of-fit test, contingency tables, regression and correlation analysis, and non-parametric methods. Introduction to using a computer. (CSU/UC*)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Education

100 Introduction to Education (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Integrates psychological, sociological, and philosophical foundations of education. Explores career opportunities and new directions in education. Includes planning of effective classroom environments. (CSU)

101 Field Experience in Education (3) *Three lecture hours per week.* Directed field experience in education for high school, secondary school, and elementary school teaching. Provides forty-eight hours of observation (participation in guided field experience for students interested in a career in teaching). (CSU)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.)

690 Special Projects (1-2) (See first page of Description of Courses section.)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Electronics Technology

Extra supplies/lab fee may be required in all Electronics Technology courses.

100 Introduction to Electronics (3) *Three lecture hours per week. Open to all students except those who are currently enrolled in or have completed a college electronics course.* Study of basic electronics with a

descriptive presentation and a non-mathematical approach. Stresses the influence of electronics in all phases of business, science, and daily life. (CSU)

110 Introduction to Fundamentals of Electronics (3) *Two lecture and three lab hours per week plus one lab hour per week by arrangement.* Reading simple schematic diagrams and constructing elementary electrical/electronics circuits; making measurements with multimeter and oscilloscopes; using DC power supplies and AC power sources; basic digital principles. Emphasizes laboratory experiments and techniques. (CSU)

115 Introduction to Electronics Soldering (1) *One lecture hour and three lab hours per week for eight weeks.* Soldering techniques and skills applied to wire, components, and printed circuits. Proper choice, use, and care of hand tools. Emphasizes neatness as well as workmanship. (CSU)

201 D.C. Electronics (3) *Two lecture and three lab hours per week. Prerequisite: concurrent enrollment in or completion of ELEC 231 with a grade of C or higher.* Study of direct current and its effect on resistors, inductors, and capacitors. The nature of electricity, resistance, basic circuit laws, Ohm's Law, magnetism, inductance, capacitance, and the use of power supplies, multimeters, and oscilloscopes. (CSU)

202 A.C. Electronics (3) *Two lecture and three lab hours per week. Prerequisite: ELEC 201 or equivalent with a grade of C or higher.* Study of alternating current and its effect on resistors, inductors, and capacitors. The nature of AC, AC and resistance, inductive and capacitive reactance, transformers, resonance, and the use of power supplies, multimeters, and oscilloscopes. (CSU)

210 Introduction to Digital Electronics (1.5) *Two lecture and three lab hours per week for eight weeks plus one lab hour per week by arrangement. Corequisite: concurrent enrollment in ELEC 110 or equivalent.* Study of the theory and operation of basic digital logic gates and combinational logic circuits. Analysis techniques include truth tables, Karnaugh maps, and basic Boolean algebra. Emphasizes older as well as state-of-the-art hardware techniques. Hands-on lab experience with TTL, CMOS, and ECL IC devices. Includes common number systems and arithmetic methods emphasizing decimal, hexadecimal and binary concepts. (CSU)

215 Introduction to PC Hardware (3) *Two and one-half lecture and one and one-half lab hours per week. Prerequisite:*

BUSD 111/112; CIS 110; ELEC 110 or their equivalent, all with a grade of C or higher. Corequisite: concurrent enrollment in BUSW 111/112 or their equivalent.

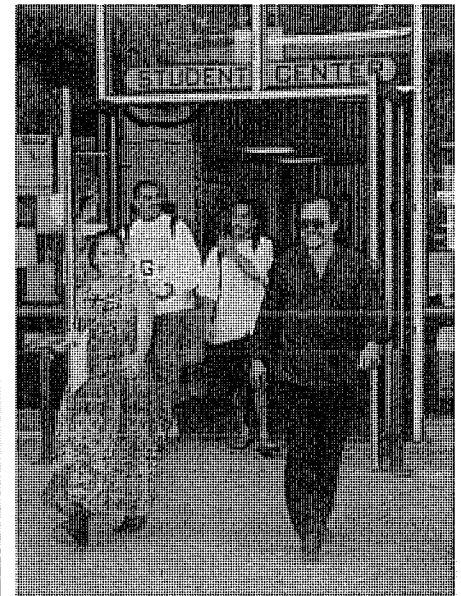
Installation and configuration of the board-level electronic systems that make up an IBM compatible personal computer. Includes motherboard geography, power supplies, single- and multi-function peripheral cards, floppy and hard disk systems, BIOS, keyboard and mouse, and monochrome and color video systems. (CSU)

216 PC Troubleshooting and System Maintenance (3) *Two and one-half lecture and one and one-half lab hours per week. Prerequisite: BUSW 111/112; ELEC 215 or their equivalent, all with a grade of C or higher. Corequisite: concurrent enrollment in ELEC 310 or equivalent.* Troubleshooting and repair of PC hardware including motherboards, memory, video display systems, mass storage, keyboards, and pointing devices. High level and low diagnostic software used extensively. Commercial optimization tools are installed and configured. Emphasizes hardware/firmware/software relationships. (CSU)

217 PC Peripheral Troubleshooting and Maintenance (3) *Two and one-half lecture and one and one-half lab hours per week. Prerequisite: ELEC 216 or equivalent with a grade of C or higher.* Installation, troubleshooting, and repair of PC peripheral hardware, including dot-matrix printers, ink-jet printers, laser printers, plotters, modems, scanners, and projection equipment. Serial, parallel, and game port high-level and low-level diagnostic software used extensively. Commercial optimizations tools are installed and configured. Emphasizes hardware/firmware/software relationships. (CSU)

218 Network Hardware Installation and Maintenance (3) *Two and one-half lecture and one and one-half lab hours per week. Prerequisite: CIS 150 and ELEC 215 or equivalent, both with a grade of C or higher.* Network hardware components and their relationship to PC hardware and software. Includes Ethernet, token ring, and ARCnet hardware; network cabling and fiber optics; hardware/firmware/software dependencies; and overall performance and reliability of network system hardware/software. (CSU)

220 DC Circuits and Devices (4) *Three lecture and four lab hours per week plus one lab hour per week by arrangement. Prerequisite: MATH 110 or MATH 111/112 or*



Student Center, hub of the campus.

one year of high school algebra with a grade of C or higher; completion of or concurrent enrollment in ELEC 231 or equivalent. Study of the circuit behavior of various combinations of resistance, capacitance, inductance, diodes, and bi-polar and field-effect transistors when DC voltage is applied. Emphasizes verification of basic circuit laws through experiments, lab procedures, basic electronic measuring equipment, and computer-based simulation. (CSU)

230 Applied Electronics Mathematics (3) *Three lecture hours per week. Prerequisite: one year of high school algebra concepts with a grade of C or higher within the last three years.* Basic applications of algebra to the solution of problems involving direct-current circuits. Elements of trigonometry, logarithms, complex numbers, and vector methods as applied to alternating current circuits and high-transmission lines. (CSU)

231 Basic Applied Electronic Mathematics (2) *Two lecture hours per week. Prerequisite: one year of high school mathematics with a grade of C or higher within the past three years.* Basic principles: algebra, trigonometry, logarithms, graphing, and scientific calculator use as applied to DC/AC circuits. (This course will transfer to CSU upon successful completion of ELEC 232.) (CSU)

232 Advanced Electronics Mathematics (1) *One lecture hour per week. Prerequisite: ELEC 231 with a grade of C or higher. Corequisite: concurrent enrollment in*

(CSU) Transferable to California State Universities, (UC) Transferable to University of California, (*) With limitations

ELEC 302. In-depth study of algebra, trigonometry, logarithms, and graphing, as applied to amplifier, oscillator, and microwave circuits. (CSU)

242 Aircraft Electricity (3) *Three lecture hours per week. Prerequisite: concurrent enrollment in or completion of AERO 130 with a grade of C or higher. Corequisite: concurrent enrollment in ELEC 243.* A study of resistance, inductance, capacitance, direct current, alternating current, switches, wire, fuses, basic active devices and circuits, and aviation electrical fabrication techniques as they apply to aircraft electrical/electronics systems. (CSU)

243 Aircraft Electricity Lab (3) *Nine lab hours per week. Corequisite: concurrent enrollment in ELEC 242.* The construction and investigation of circuits and devices which include resistance, inductance, capacitance, direct current, alternating current, switches, wire fuses, and basic active devices and circuits as they apply to aircraft electrical/electronics systems. Hands on skill development in the fabrication techniques and processes used in avionics including wiring terminals, connectors, lead dress, wire wrap, crimping, soldering, use of tools, and cable fabrication/routing. (CSU)

248 Introduction to Avionics Systems (5) *Five lecture hours per week. Prerequisites: AERO 130 and ELEC 242/243 with a grade of C or higher. Corequisite: concurrent enrollment in ELEC 249.* Study of aircraft power generation and distribution systems, basic digital and computer systems, and basic sensor systems found in avionics systems. Emphasizes data buses and ARINC 429. (CSU)

249 Introduction to Avionics Systems Lab (2.5) *Seven and one-half lab hours per week. Corequisite: concurrent enrollment in ELEC 248.* Hands-on application of basic digital and computer systems found in avionics systems, emphasizing data buses and ARINC 429. (CSU)

260 Digital Logic Circuits I (3) *Two lecture and three lab hours per week plus one lab hour per week by arrangement. Prerequisites: ELEC 110 and 210 with a grade of C or higher or equivalent qualification.* Application of digital gates in combinational logic to produce the common digital logic functions, including adders/subtractors, multiplexers/demux magnitude comparators, parity generators/checkers, encoders/decoders, flip-flops counters, reg-

isters, memories, data transmission systems, and A-to-D and D-to-A conversions. (CSU)

275 AC Circuits and Devices (4) *Three lecture and four lab hours per week plus one lab hour per week by arrangement. Prerequisite: ELEC 220 or equivalent with a grade of C or higher.* Study of circuit behavior when AC voltage is applied to various combinations of resistance, capacitance, inductance, diodes, and bi-polar and field-effect transistors. Emphasizes verification of basic circuit laws through experiments, lab procedures, basic electronic measuring equipment, and computer-based simulation. (CSU)

280 Electrical/Mechanical Assembly Technology I (3) *Two lecture and three lab hours per week plus one lab hour per week by arrangement. Corequisite: concurrent enrollment in ELEC 220 or 275 or equivalent background.* Basic hand skills required of electronics technicians. Fabrication and assembly techniques typical of the electronics industry, emphasizing industrial standards. (CSU)

302 Modulation/Demodulation and Signal Processing Systems (3) *Two lecture and three lab hours per week plus one lab hour per week by arrangement. Prerequisite: ELEC 250 or 275 with a grade of C or higher or equivalent qualification. Corequisite: concurrent enrollment in ELEC 232.* Study of the signal-processing functions in modulation and demodulation of intelligence signals as used in audio and video communications systems. (CSU)

310 Introduction to Microprocessors (3) *Two lecture and three lab hours per week plus one lab hour per week by arrangement. Prerequisite: ELEC 260 with a grade of C or higher or equivalent qualification.* Covers the 16-bit microprocessor: the CPU instructional set, basic system hardware, chip select systems, memory, and direct I/O. Emphasizes assembly language programming and software control of hardware. (CSU)

320 Linear Circuit Analysis (4) *Three lecture and four lab hours per week plus one lab hour per week by arrangement. Prerequisite: ELEC 275 or equivalent with a grade of C or higher; completion of or concurrent enrollment in ELEC 232 or equivalent.* Circuit parameter analysis, including frequency response techniques and computer-based simulation, of discrete and monolithic multistage audio voltage and power amplifiers and operational amplifiers. (CSU)

330 Electrical/Mechanical Assembly Technology II (3) *Two lecture and three lab hours per week plus one lab hour per week by arrangement. Prerequisites: ELEC 280 with a grade of C or higher or equivalent industrial experience. Recommended Preparation: wordprocessing or keyboarding.* Electronics symbols, designations, and hardware; research, identification, and use of industrial sources and literature; designing and developing master artwork for processing printed circuit boards; developing a prototype for a project and supporting it with documentation. (CSU)

340 Communications Systems Fundamentals (5) *Five lecture hours per week. Prerequisites: ELEC 248/249 with a grade of C or higher. Corequisite: concurrent enrollment in ELEC 341.* Study of the dimensions of audio communication signals and systems and their application to avionics equipment used in modern aircraft electronic systems. Emphasizes basic theory and principles. Transducers, communications systems, and system interconnections used to demonstrate interrelationships. Modern aircraft documentation and equipment used for examples of systems. (CSU)

341 Communications Systems Fundamentals Lab (2.5) *Seven and one-half lab hours per week. Corequisite: concurrent enrollment in ELEC 340.* Hands-on study of audio communication signals and systems and their application to aircraft avionics equipment used in modern aircraft electronics systems. Emphasizes basic principles of set-up and measurement by following written procedures and the techniques of performing measurements and interpreting measured data. Uses communication trainers, along with avionics simulators and computer-aided instruction, to support the lab processes. (CSU)

342 RF, Transmission, Microwave and Radar Fundamentals (5) *Five lecture hours per week. Prerequisites: ELEC 340/341 with a grade of C or higher. Corequisite: concurrent enrollment in ELEC 343.* Study of radio-frequency communication fundamentals and their application to avionics equipment used in modern aircraft electronic systems. Emphasizes basic theory and principles as applied to aircraft communication, navigation, and flight control. Uses RF system interconnections to demonstrate the application of theory to practice. Uses modern aircraft documentation and equipment simulations for examples of systems. (CSU)

343 RF, Transmission, Microwave and Radar Fundamentals Lab (2.5) *Seven and one-half lab hours per week. Corequisite: concurrent enrollment in ELEC 342.* Hands-on study of radio-frequency communication fundamentals and their application to avionics equipment used in modern aircraft electronic systems. Emphasizes basic principles of set-up measurement by following written procedures and the techniques of performing measurements and interpreting measure data. Uses communication trainers, along with avionics simulators and computer-aided instruction, to support the lab processes. (CSU)

346 Radiotelephone Principles I (2) *Two lecture hours per week. Prerequisites: ELEC 342/343 with a grade of C or higher.* Basic theories and principles of radiotelephone operation. (CSU)

351 Advanced RF Circuits (2) *One lecture hour and three lab hours per week. Prerequisites: ELEC 370; ELEC 232 or MATH 120 or higher level math course with a grade of C or higher or equivalent qualifications.* Study and application of RF circuits, emphasizing impedance matching, Class C amplifiers/multipliers, crystal oscillators, and AM/FM modulators/demodulators. (CSU)

360 Microcomputer Interfacing (3) *Two lecture and three lab hours per week plus one lab hour per week by arrangement. Prerequisite: ELEC 310 with a grade of C or higher or equivalent qualification.* Programmable microprocessor compatible support chips. Interrupts, parallel data transfer techniques, serial data communications, A-to-D and D-to-A conversion, and software diagnostics. (CSU)

362 Radio-Frequency Communication (4) *Three lecture and three lab hours per week plus one lab hour per week by arrangement. Prerequisites: ELEC 232 or higher level math course, 320 and 302 with a grade of C or higher or equivalent qualification.* Principles and techniques of radio frequency/microwave transmission and reception, including transmission lines and antennas. (CSU)

370 Nonlinear Circuit Analysis (4) *Three lecture and four lab hours per week plus one lab hour per week by arrangement. Prerequisite: ELEC 320 or equivalent with a grade of C or higher.* Analysis and computer-based simulation of discrete and nonolithic applications of fixed and variable regulated power supplies, sine wave and

non-sine wave RC oscillators, phase-locked loop circuits, and RF amplifiers/oscillators. (CSU)

386 Advanced Digital Systems (3) *Two lecture and three lab hours per week. Prerequisite: ELEC 360 with a grade of C or higher or equivalent qualification.* Study of 16- and 32-bit digital systems including hardware and software. (CSU)

641 Cooperative Education (1-4) (See first page of Description of Courses section.) (CSU)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

721 Basic Semiconductor Circuits (4) *Three lecture and three lab hours per week. Prerequisites: ELEC 200 or 220; ELEC 231; or equivalent qualification.* Testing and simple evaluation of the characteristics of active solid-state electronic devices such as diodes, bipolar, and field effect transistors and thyristors. (CSU)

731 Linear Analog Circuits (4) *Three lecture and three lab hours per week. Prerequisite: ELEC 721.* Study of circuit characteristics in discrete and monolithic audio frequency linear amplifiers. Covers cascaded and multistage voltage amplifiers, differential amplifiers, operational amplifiers, power amplifiers, and active filters. (CSU)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Engineering

Unless otherwise indicated, a grade of C or higher is required for all prerequisite courses.

111 Engineering Surveying (3) *Two lecture and three lab hours per week. Prerequisite: MATH 130.* Theory of measurements in surveying, measurement of distance, differential leveling and measurements of angles and directions; stadia techniques and topographic mapping; field astronomy; and theory of state plane coordinate systems. Extra supplies may be required. (CSU/UC*) (CAN ENGR 10)

210 Engineering Graphics (4) *Three lecture and four lab hours per week. Prerequisites: MATH 241 or 251; DRAF 120 or one*

year of high school mechanical drawing. Fundamental principles of descriptive geometry with applications. Graphic mathematics, nomography, and graphical calculus. Introduction to Computer-Aided Design (CAD) using IBM-PC/AT-type computers and CADKEY software. (CSU/UC*) (CAN ENGR 2)

230 Engineering Statics (3) *Three lecture hours per week. Prerequisites: PHYS 250; MATH 252. Corequisite: concurrent enrollment in MATH 253. Recommended Preparation: ENGR 210.* Plane and space force-moment systems, equivalent systems, and couples; equilibrium problems covering structures, machines, distributed force systems, and friction; free body diagrams and design concepts analyzed on CAD. (CSU/UC*) (CAN ENGR 8)

260 Circuits and Devices (4) *Three lecture and three lab hours per week. Prerequisites: PHYS 260; MATH 253. Concurrent enrollment in MATH 275 is recommended.* Introduction to circuits. Natural and forced response, network theorems; characteristics and circuit models of electronic devices and transistor amplifiers. Laboratory assignments include both standard bench techniques and computer-aided analysis. (Spring only.) (CSU/UC*) (CAN ENGR 6)

270 Materials Science (3) *Two lecture and three lab hours per week. Corequisites: MATH 241 or 251; CHEM 210 or 224. Recommended Preparation: PHYS 250.* Introduction to mechanics of solids with theory and ASTM standard tests. Atomic and crystal structure, imperfections, and resulting physical and chemical properties; phase transformations, microstructures, and heat treating. Structure and properties of metals, ceramics, polymers, semiconductors, and composites. Crystal modeling including interstitial sites and slip systems using CAD. Computer treatment of lab data and microstructural analysis. (CSU/UC*) (CAN ENGR 4)

641 Cooperative Education (1-4) (See first page of Description of Courses section.) (CSU)

666 Careers in Engineering (1) (*Credit/No Credit grading.*) *Two lecture hours per week for eight weeks.* An intensive introduction to the problems faced by beginning engineering students; academic and professional requirements, opportunities, available areas of specialization, and alternatives. (Fall only.) (CSU/UC*)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

English

(Also see *Film, Literature, Reading, and Speech*.)

The English Placement Test is required of all entering freshmen. Students transferring to College of San Mateo with credit in college English will not be required to take the test. They must, however, take the Reading Test if they have not completed English 100 or equivalent with a grade of C or higher. Designed to measure the entrant's ability in reading, the mechanics of writing, and composition, the English Placement Test is used (in addition to other information) to determine placement of students in English 100 and other English courses.

The English Program

The English program consists of transfer and nontransfer courses in composition, film, language, literature, reading, and speech. Entering students should enroll first in one of the following courses in composition:

<i>Transfer Courses</i>	<i>Nontransfer Courses</i>
English 100	English 801 or 800
English 105	English 841, 842,
English 400	843, or 844

The English requirement for the AA/AS degree may be completed with additional units chosen from the following courses:

<i>Transfer courses</i>	<i>Nontransfer Courses</i>
English 110, 120,	English 875
130, or 140	Speech 801
English 400	Speech 844
Speech 100 or 120	

Note that English 100 or 105 with a grade of C or higher is the prerequisite for English 110, 120, 130, and 140. English 800 or 400 with a grade of C or higher is the prerequisite for English 100, except for students who placed in English 100 on the placement test. Reading courses may be taken concurrently with any of the other courses in the English/Literature program.

Other English/Literature transfer courses are those numbered below 800; other English/

Literature nontransfer courses are those numbered 800 or above.

The following English courses are credit-bearing but not degree-applicable, which means that the units count for the purpose of financial aid but not toward the AA/AS degree: 801, 830, 841, 842, 843, 844, 850, 853, 860, 875.

Concurrent enrollment in reading is **strongly recommended** for all students whose reading levels are below grade 11.0 as measured by the comprehension section of the Reading Test or subsequent course work.

100 Composition and Reading (3) *Three lecture hours per week. Prerequisite: ENGL 800 or 400 with a grade of C or higher (or appropriate skill level indicated by the English placement tests and other measures as needed).* (All ENGL 100 students who received a grade of C in ENGL 800 or 400 are strongly advised to enroll concurrently in ENGL 850.) Intensive reading and writing based on a study of primarily nonfiction materials. Students write a minimum of 8,000 words; writing emphasizes expository forms. (CSU/UC) (CAN ENGL 2)

105 Extended Composition and Reading (4) *Five lecture hours per week. Prerequisite: ENGL 800 or 400 with a grade of C or higher (or appropriate skill level indicated by the English placement tests and other measures as needed).* An alternative version of English 100, this course includes a thorough review of sentence structure and paragraph development in addition to intensive reading and writing of essays. Students will write a minimum of 8,000 words; most of them in the expository form. (3 units transfer to satisfy the first semester of the composition requirement. 1 unit transfers as elective.) (CSU/UC)

110 Composition and Literature (3) *Three lecture hours per week. Prerequisite: ENGL 100 or 105 with a grade of C or higher.* Study of fiction, drama, and poetry with extensive critical writing (a minimum of 8,000 words). (CSU/UC) (CAN ENGL 4)

120 Composition and Poetry (3) *Three lecture hours per week. Prerequisite: ENGL 100 or 105 with a grade of C or higher.* Study of selected poetry with extensive critical writing (a minimum of 8,000 words). (CSU/UC)

130 Composition and Fiction (3) *Three lecture hours per week. Prerequisite: ENGL 100 or 105 with a grade of C or higher.* Study of the short story and the novel with

extensive critical writing (a minimum of 8,000 words). (CSU/UC)

140 Composition and Drama (3) *Three lecture hours per week. Prerequisite: ENGL 100 or 105 with a grade of C or higher.* Study of selected dramatic works with extensive critical writing (a minimum of 8,000 words). (CSU/UC)

161 Creative Writing I (3) *Three lecture hours per week. Prerequisite: ENGL 110, 120, 130 or 140.* The craft of writing short fiction and poetry. Students write a minimum of two short stories and complete a poetry project. (CSU/UC) (CAN ENGL 6)

162 Creative Writing II (3) *Three lecture hours per week. Prerequisite: ENGL 161.* Further instruction in the craft of fiction, with emphasis on writing for publication. (CSU/UC)

163 Creative Writing III (3) *Three lecture hours per week. Prerequisite: ENGL 162.* Instruction in the writing of long fiction for the prospective professional writer. (To increase competency, may be taken twice for a maximum of 6 units.) (CSU/UC)

165 Advanced Composition (3) *Three lecture hours per week. Prerequisite: ENGL 100 or 105 with a grade of C or higher.* Designed for students who already have some experience with writing both formal and informal essays and want to go further into the techniques of effective essay and article writing, with particular emphasis on critical thinking skills, persuasive strategies, and the attendant concerns of style and audience. Includes formal instruction in principles of inductive and deductive reasoning, the relationship of language to logic, common logical fallacies, and methods of analysis and evaluation. (Fulfills critical thinking requirement for transfer students.) (CSU/UC) (CAN ENGL 4)

195 Term Paper (1) (*Credit/No Credit grading.*) *Two lecture hours per week for eight weeks. Prerequisite: eligibility for ENGL 100.* A short course designed to assist the student who has never had the experience of writing a documented or research paper. Emphasizes the process and techniques involved in the actual production of a term paper. (CSU)

210 Word Study (3) *Three lecture hours per week. Prerequisite: ENGL 860 or eligibility for ENGL 100.* Study of the word stock of standard English, with emphasis on the vocabulary essential to academic work.

Includes instruction in etymology, roots, dialects, context clues, semantics, and strategies for continual independent acquisition of vocabulary. (CSU/UC)

400 Composition for Non-Native Speakers (5) *Five lecture hours per week. Prerequisite: ENGL 844 with a grade of C or higher (or appropriate skill level indicated by English placement tests and other measures as needed). It is recommended that students enroll concurrently in READ 802 and SPCH 100, 120, or 150.* Intensive practice in the writing of expository essays based on the analysis of complex pieces of writing, both fiction and non-fiction. The student is expected to conform to the conventions of standard English by demonstrating an ability to use proper punctuation, mechanics, structures, and grammar and to employ a variety of sentence patterns. (Meets the competency standards required for the AA/AS degree and for entrance into English 100.) (CSU/UC)

641 Cooperative Education (1-4) (See first page of Description of Courses section.) (CSU)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

800 Writing Development (3) *Three lecture hours per week. Recommended Preparation: ENGL 801 with a grade of C or higher (or appropriate skill level indicated by the English placement tests and other measures as needed).* Practice in writing to develop and refine specific composition skills. Includes instruction in the composing process, elements of the essay, rhetorical strategies, analytical reading, grammar, and mechanics. Designed mainly to prepare students to meet competency standards required for entrance into English 100.

801 Basic Writing Skills (3) *Five lecture hours per week. Recommended Preparation: appropriate skill level indicated by the English placement tests and other measures as needed. Concurrent enrollment in a reading class is strongly recommended for all students whose reading comprehension level is below tenth grade.* Sentence structure, punctuation, paragraph development, and the composition of brief essays. Practice in writing based on the study of essays and other reading material. (Units do not apply toward AA/AS degree.)

811 Intermediate Reading, Interpreting, and Composition (4) *Three lecture hours and two hours of writing practicum per week. Recommended Preparation: appropriate skill level indicated by the English placement tests and other measures as needed.* Practice in writing based on the reading and study of essays and other prose. (Note: The student will receive one unit of credit for ENGL 811; the other three units will appear on the transcript as credit for either ENGL 800 or 801, depending upon the quality and quantity of the student's writing.)

820 Technical Report Writing (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800 or higher.* Training in writing for students in Aeronautics, Electronics, Computer & Information Science, Drafting, Engineering, Welding, Nursing, Machine Tool Technology, and other occupational fields. (Course may be substituted for ENGL 800 to meet English competency requirement for AA/AS degree but cannot be used as a prerequisite for ENGL 100.)

825 Writing for Careers: Law Enforcement Personnel (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800 or higher.* Training in writing for students in Administration of Justice program. (Course may be substituted for ENGL 800 to meet English competency requirement for the AA/AS degree but cannot be used as a prerequisite for ENGL 100.)

830 Writing for Dental Assistants (1.5) *One and one-half lecture hours per week. Offered primarily for students in the Dental Assisting Program.* Training of dental assistants in the basic principles of technical and business writing; review of grammar, usage, and composition skills. (Units do not apply toward AA/AS degree and cannot be used as a prerequisite for ENGL 100.)

835 Writing for Careers: Fire Technology (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800 or higher.* Training in writing for Fire Technology students and personnel. (Course may be substituted for ENGL 800 to meet English competency requirement for the AA/AS degree but cannot be used as a prerequisite for ENGL 100.)

841 Writing for Non-Native Speakers I (5) *(Credit/No Credit grading.) Five lecture hours per week. Recommended Preparation: appropriate skill level indicated by placement tests and other measures as*

needed. It is recommended that students enroll concurrently in READ 841 or higher course, SPCH 841 or higher course and READ 807. Designed to initiate the study of written academic English. Introduces, explains, and offers practice in the following: simple present, past, future, and the progressive tenses in statement/question formats; adverbs of frequency; SOME and ANY; articles; count and noncount nouns; quantity expressions; demonstratives; possessives; OTHER and ANOTHER; object pronouns; prepositional phrases; contractions; and punctuation. (Units do not apply toward AA/AS degree.)

842 Writing for Non-Native Speakers II (5) *(Credit/No Credit grading.) Five lecture hours per week. Recommended Preparation: credit in ENGL 841 (or appropriate skill level indicated by placement tests and other measures as needed). It is recommended that students enroll concurrently in READ 841 or higher course, SPCH 841 or higher course and READ 807.* Introduces beginning rhetoric in the form of a connected series of simple sentences on topics of daily life and continues the study of English sentence types, imperatives, four basic tenses (past, present, future and progressive), modals, expletives, contractions, special verbs, count/noncount nouns, plurals (regular/irregular), articles, pronouns, prepositions, adjectives, adverbs, correct word order, punctuation, and spelling. (Units do not apply toward AA/AS degree.)

843 Writing for Non-Native Speakers III (5) *Five lecture hours per week. Recommended Preparation: credit in ENGL 842 (or appropriate skill level indicated by placement tests and other measures as needed). It is recommended that students enroll concurrently in READ 842 or higher course (843, 800, 801, or 802) and SPCH 842 or higher course.* Continues the study and practice of structural elements such as sentence types, tenses (past, present, future, perfect), modals, count/noncount nouns, idiomatic verbs, pronouns, prepositions, adverbs, subordinating-coordinating conjunctions, compound-complex sentences, punctuation, and spelling and rhetorical elements such as expository paragraphs and short essays. (Units do not apply toward AA/AS degree.)

844 Writing for Non-Native Speakers IV (5) *Five lecture hours per week. Recommended Preparation: ENGL 843 with a grade of C or higher (or appropriate skill level indicated by placement tests and other*

measures as needed). It is recommended that students enroll concurrently in READ 801 or higher course (802 or 420) and SPCH 843 or 844. Covers mechanical operations such as spelling, punctuation, sentence structure, and grammatical structures in the context of the student's own writing. Practice in writing paragraphs and essays to develop composition skills. (Units do not apply toward AA/AS degree.)

850 Writing Workshop (.5-3) (*Credit/No Credit grading.*) (*Open entry/open exit*) One and one-half to nine lab hours per week. Includes individual appointments with a faculty member who will help students solve writing problems and correct writing errors. May include organization, development, and mechanics, with help tailored to the specific needs of the student. (To increase competency, may be taken four times for a maximum of 12 units.) (Units do not apply toward AA/AS degree.)

853 Computer-Assisted Instruction in Composition (.5-3) (*Credit/No Credit grading.*) (*Open entry/open exit*) One and one-half to nine lab hours per week. *Corequisite: concurrent enrollment in a Language Arts class.* Theory and practice of composition on the microcomputer. Incidental computerized study of grammar, vocabulary, and sentence structure. Emphasizes the use of the computer and suitable software in all phases of the composing process: generating, organizing, and developing ideas; drafting and revising large and small structures, including sentences, paragraphs, essays, stories, poems, etc.; proof-reading, editing, and styling final drafts. No previous computer experience required; includes individual appointments with faculty. (To increase competency, may be taken four times for a maximum of 12 units.) (Units do not apply toward AA/AS degree.)

860 Vocabulary (3) *Three lecture hours per week.* Use of the dictionary with emphasis on contemporary usage and practical application of vocabulary skills in the mastery of other subjects. Designed to increase and improve the student's word stock. (Units do not apply toward AA/AS degree.)

875 English Grammar (3) *Three lecture hours per week.* Study of basic grammar, including such topics as sentence structure, diction, agreement, punctuation, and troublesome verbs. (Units do not apply toward AA/AS degree.)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Environmental Technology

100 Introduction to Environmental Hazardous Materials Technology (3) *Three lecture hours per week.* Survey of pollution legislation, regulatory framework, and environmental effects; discussion of career opportunities in handling and management of hazardous materials.

110 Waste Stream Generation/Reduction Treatment (3) *Three lecture hours per week.* Study of industrial processes and associated waste streams with emphasis on regulatory compliance. Focuses on material balance and waste minimization/treatment concepts.

130 Health Effects of Hazardous Materials (3) *Three lecture hours per week. Prerequisite: BIOL 110.* Emphasizes acute and chronic health effects produced by exposure to hazardous materials. Topics include routes of entry, risks, and control methods.

150 Hazardous Waste Management Applications (4) *Three lecture and three lab hours per week. Prerequisite: EHMT or ENVT 100.* Survey of hazardous waste regulation, emphasizing generator compliance, site investigation and remediation, permitting, enforcement, and liability. Lab provides hands-on application of regulations at technician level.

200 Hazardous Materials Management Applications (4) *Three lecture and three lab hours per week. Prerequisites: EHMT or ENVT 100 and 130.* Practical application of federal, state, and local laws and regulations relating to hazardous materials. Includes practical exercises in applying standards and completing necessary permits.

230 Safety and Emergency Response (4) *Three lecture and three lab hours per week. Prerequisite: EHMT or ENVT 130.* Hands-on instruction in chemical and physical exposures. Includes hazard analysis, house-keeping and safety practices, and use and selection of PPE and instruments. Course satisfies OSHA 1910.120 requirement.

880 – 889 Selected Topics (1-3) See first page of Description of Courses section.

Ethnic Studies

101 Introduction to Ethnic Studies I (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Study of the historical and cultural presence of Native and Latin Americans in the United States, with special emphasis on their contributions to California's social, political, and economic institutions. Studies the roots of these groups from California and national perspectives. Provides the student with the general background of two of California's oldest ethnic groups and stimulates dialogue related to contemporary issues in California's institutional processes. (Satisfies State and Local Government requirement.) (CSU/UC)

102 Introduction to Ethnic Studies II (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Study of the historical and cultural presence of African-Americans and Asians in the United States, with special emphasis on their contributions to California's social, political, and economic institutions. Studies their roots in California and in the United States. Provides the student with general background of these two California groups and stimulates dialogue related to contemporary issues in California's institutional processes. (Satisfies State and Local Government requirement.) (CSU/UC)

150 Social Dynamics of People of Color (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Social structure and dynamics of Third World institutions, with emphasis upon development and effectiveness of these institutions among Third World communities in the United States. Concentrates on the family, education, religion, and business. (CSU/UC)

151 Patterns of Prejudice and Racism I (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Analyzes patterns of prejudice and racism from a social-psychological perspective. Focuses on the prejudiced personality and how it develops, functions, and affects both the prejudiced individual and the victim. Examines both external and internal dynamics of prejudice and its manifestation in discriminatory behavior. (CSU/UC*)

152 Patterns of Prejudice and Racism II (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL*

800. Sociological analysis of how major American institutions create, facilitate, support, and systematically reinforce patterns of racism and discrimination. Specifically, how these institutions function, are organized, and operate against Asians, African-Americans, Hispanics, Native Americans, women, and other oppressed groups in the U.S. and how they can be modified structurally and functionally to eliminate instead of foster racism. (CSU/UC)

160 Psychology of People of Color (3) (Credit/No Credit or letter grade option.) Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800. Psychological theories that provide viable alternative methods of analyzing the ideational and behavioral mechanisms operative among Third World persons. Explores methods of treatment of the major mental illnesses affecting each culture. (CSU/UC)

261 African-American Culture I (3) Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800. Relevance of African culture to the study of African-American life, including the African diaspora and its impact on contemporary African-American cultural institutions. (CSU/UC)

262 African-American Culture II (3) Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800. Emergence of modern African-American social movements in the United States, their leaders and philosophies, and contemporary issues, including the African-American consciousness movement, Pan-Africanism, counter-cultural forms of expression, and social problems. (CSU/UC)

288 African-American Cinema (3) Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800. Contributions of African-Americans in the film industry and their historical relationship to the industry. Extensive use of films, supplemented by lecture and presentations by African-Americans involved in the film industry. (CSU/UC)

290 Law and the African-American Community (3) Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800. Nature and extent of crime among African-Americans in the U.S. Seeks to understand crime, suggest methods of control, and predict criminality within the African-American community. Covers crimes against persons and property,

conviction rates among African-Americans, and application of penal codes. (CSU/UC)

350 Native American Way of Life (3) Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800. Study of Native American philosophy, customs, and spiritual practices based on the works of Dr. Carlos Castaneda. Introduces the mystical knowledge of the Yaqui Indians and comparative study of Hindu vedas, Buddhism, Heraclitus, and Sufism. (CSU/UC)

351 The Primal Mind and Cultural Diversity (3) Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800. Theory of origin and evolution of life. Migration from Africa. Comparative study of Native Americans with Eurasians. Origin of consciousness, self image and ego. Primal mind of the child; conception, pregnancy and birth. Intuitive mind and development of linear thinking. (CSU/UC)

425 The History of Asian People in the United States (3) Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800. Asian-American history from 1840 to the present, with special attention to the contemporary issues and problems prevalent in Asian-American communities. (CSU/UC)

430 Asian-American Communities in the United States (3) Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800. Introduction to Asian-American communities in the United States. Includes community structure and social institutions; comparison of Asian-American community with other minorities and with the majority society. (CSU/UC)

440 Cultural Experience of Asian-American Writers (3) Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800. Introduction to Asian American writers' experiences as shaped by the treatment of minorities in the U.S. and by institutional racism. Analyzes writers' works in the context of historical, social and political influences and compares Asian Americans with other ethnic groups and the majority society. (CSU/UC)

585 Third World Cinema (3) Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800. Survey of the history of film by and about Third World people and their contributions to the development of cinema. Focus on films by and about Third World people in Africa, Asia, the Caribbean, and the Americas. (CSU/UC)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Film

451 Film History I (3) Three lecture hours per week. Survey of the evolution of the motion picture from the earliest efforts of European and American filmmakers through post-World War II productions. Emphasizes film appreciation, the language of film, and analysis for full film enjoyment. (CSU/UC)

452 Film History II (3) Three lecture hours per week. Prerequisite: FILM 451. Further study of the evolution of the motion picture. Emphasizes film appreciation, the language of film, and analysis for full film enjoyment. (CSU/UC)

461 Filmmaking I (4) Three lecture and six lab hours per week. Introduction of film theory, aesthetics, and 8mm production; includes screenplay writing and pre-production as well as crew work on super-8mm motion picture productions. (CSU/UC*)

462 Filmmaking II (4) Three lecture and six lab hours per week. Prerequisite: FILM 461. Advanced theory, aesthetics, critical writing and 8mm production. Students work on a production crew as well as write and produce their own motion pictures. (To increase competency, may be taken three times for a maximum of 12 units, after which students may petition to audit. See Index: "Audit Policy.") (CSU/UC*)

463 Screenwriting (1) Three lecture hours per week for five and one-half weeks. Recommended Preparation: eligibility for ENGL 100. A sixteen-hour module on devising film ideas, developing a film premise, preparing character biographies, developing scenes, structuring a story, and preparing a professional film script. (To increase competency, may be taken twice for a maximum of 2 units.) (CSU)

464 Advanced Production (1) Three lecture hours per week for five and one-half weeks. Prerequisite: completion of or concurrent enrollment in FILM 462. A sixteen-hour module that introduces principles and techniques of 16mm production. Includes cinematography, editing, double-system

sound, film stocks, working with labs, and A and B rolling. Final projects can be 16mm film, super-8 film or "found footage." (To increase competency, may be taken twice for a maximum of 2 units.) (CSU)

465 Video Editing (1) *Three lecture hours per week for five and one-half weeks. Prerequisite: FILM 464 or equivalent.* A sixteen-hour module introducing the principles and techniques of video-editing, with film footage transferred to videotape for editing image and adding sound. (To increase competency, may be taken twice for a maximum of 2 units.) (CSU)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3) See first page of Description of Courses section.

Fire Technology

641 Cooperative Education (1-4) (See first page of Description of Courses section.) (CSU)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

701 Fire Command IA (2.5) (*Credit/No Credit grading.*) *Forty lecture hours per semester.* Covers the role of fireground officer, the emergency decision making process, basic tactics and strategies, fireground stress, operative standards, and command and control components. This course applies to State Fire Marshal Fire Officer Certification. (CSU)

702 Fire Command IB (2.5) (*Credit/No Credit grading.*) *Forty lecture hours per semester.* Management of hazardous materials incidents, emergency response, D.O.T., Chemtrec, protective clothing and decontamination, evacuation, and containment and disposal. This course applies to State Fire Marshal Fire Officer Certification. (CSU)

703 Fire Instructor IA (2.5) (*Credit/No Credit grading.*) *Forty lecture hours per semester.* Preparation of course outlines, job breakdowns, behavioral objectives, and manipulative lesson plans. Instruction in the importance of the occupational analysis

terms of education teaching methods and the psychology of learning. This course applies to State Fire Marshal Fire Officer I, Fire Instructor I, and Public Ed Officer II Certification. (CSU)

704 Fire Instructor IB (2.5) (*Credit/No Credit grading.*) *Forty lecture hours per semester. Recommended Preparation: FIRE 703.* Preparation of technical lesson plans, supplementary instruction sheets, test planning sheets, and written and oral examinations. Includes the fundamentals of evaluation, lesson plan formats, and the principles of effective instruction. This course applies to State Fire Marshal Fire Officer I, Fire Instructor I, and Public Ed Officer II Certification. (CSU)

705 Fire Hydraulics (3) *Three lecture hours per week.* Basic mathematics, principles of hydraulics, calculations of engine and nozzle pressures, discharge, fire streams, friction loss, and pump operation and characteristics. Application of formulas to hydraulics and water supply problems. (CSU)

706 Fire Management I (2.5) (*Credit/No Credit grading.*) *Forty lecture hours per semester.* Management techniques, including management by objective and participatory management understanding human needs, decision making, and team building, equal employment opportunity, communication, and disputes. This course applies to State Fire Marshal Fire Officer Certification. (CSU)

707 Fire Prevention IA (2.5) (*Credit/No Credit grading.*) *Forty lecture hours per semester.* Provides a broad technical survey of the fire prevention codes and ordinances, inspection practice, and key hazards. Covers flammable and combustible liquids and gases, explosives, fireworks, extinguishing systems, and other topics. This course applies to State Fire Marshal Fire Officer I and Fire Prevention Officer I Certification. (CSU)

708 Fire Prevention IB (2.5) (*Credit/No Credit grading.*) *Forty lecture hours per semester. Recommended Preparation: FIRE 707.* Focuses on codes, ordinances, and statutes pertaining to fire prevention practices in California. Includes building construction and occupancy, evacuation procedures, inspection reports, and processing plans. This course applies to State Fire Marshal Fire Officer I and Fire Prevention Officer I Certification. (CSU)

709 Fire Prevention IC (2.5) (*Credit/No Credit grading.*) *Forty lecture hours per*

semester. Prerequisites: FIRE 707, 708. Focuses on the special hazards associated with flammable and combustible liquids and gases. Topics include: bulk storage and handling, transportation of flammable gasses and liquids, industry practices, and applicable laws and codes. This course applies to State Fire Marshal Fire Prevention Officer I Certification. (CSU)

711 Rescue Systems One (1.5) (*Credit/No Credit grading.*) *Sixteen lecture and thirty-two lab hours per semester. Prerequisites: Fire Technology Certificate; FIRE 783 or 784; FIRE 785 or 788 or employment as a firefighter.* Emphasizes safety in training, including rescue team organization, blocked access, structural damage, use of ropes, knots, rigging and pulley systems, descending, rappelling tools and techniques; surface rescue techniques; use of cribbing, wedges, cutting and prying tools. Training includes simulated rescue exercises and requires strenuous physical activities.

713 Driver/Operator IA (2) *Thirty-two lecture and eight lab hours per semester.* Application of vehicle code laws to driving fire department apparatus in emergency and non-emergency conditions. Integrates laws and Fire Department rules to perform effectively as an "engineer." Synthesizes apparatus functions and characteristics with good driving practices and skills under emergency conditions.

714 Wildland Fire Control (3) *Three lecture hours per week.* Focuses on the principles and techniques used to extinguish wildland fires and to prevent and control their occurrence. Subjects include: California's wildland fire problem, safety, weather effects, wildland fuels, fire behavior, attack methods, urban-interfaces, and investigation. (CSU)

715 Introduction to Fire Technology (3) *Three lecture hours per week.* Introduction to and history of fire protection and specific fire protection functions; basic fire chemistry and physics. Career opportunities in fire protection and related fields. (CSU)

718 Fundamentals of Fire Service Operations (3) *Three lecture hours per week.* Fundamentals of fire department organization, management, and resources, including the use of those resources to control various emergencies. (CSU)

720 Fundamentals of Fire Prevention (3) *Three lecture hours per week.* Fundamentals of fire prevention techniques; hazards in ordinary and special occupancies; organiza-

tion and functions of fire prevention bureaus; related procedures and regulations. (CSU)

725 Fire Apparatus and Equipment (3) *Three lecture hours per week.* Covers the operation, care and maintenance, specifications, capabilities, and effective use of fire service apparatus and related equipment. (CSU)

730 Fundamentals of Fire Protection Chemistry (3) *Three lecture hours per week.* Fundamentals of fire behavior and methods of control. Chemistry and physics of fire; fire characteristics of materials; extinguishing agents and fire control techniques. (CSU)

735 Fire Investigation IA (2.5) *(Credit/No Credit grading.) Forty lecture hours per semester.* Responsibilities of the investigator, cause and origin investigation, techniques of investigation and reports, and legal responsibilities. This course applies to State Fire Marshal Fire Officer I and Fire Investigator I Certifications. (CSU)

736 Fire Investigation IB (2.5) *(Credit/No Credit grading.) Forty lecture hours per semester. Prerequisites: FIRE 735.* In-depth discussion of Investigation IA topics, including juvenile firesetter, report writing, and evidence collection and preservation procedures. This course applies to State Fire Marshal Fire Investigator I Certification. (CSU)

740 Building Construction for Fire Service (3) *Three lecture hours per week.* Fundamentals of building construction as it relates to fire protection, with emphasis on code requirements, utilization of building materials and their fire resistive qualities. (CSU)

745 Fundamentals of Fire Protection Systems & Equipment (3) *Three lecture hours per week.* Design and operation of fire detection and alarm systems, heat and smoke control systems, special protection and sprinkler systems, water supply for fire protection, and portable fire extinguishers. (CSU)

756 Cliff Rescue (1) *(Credit/No Credit grading.) Sixteen lecture hours per semester.* Rescue problems and techniques in cliffside emergencies. Practical application of specialized emergency rescue tools and equipment under a wide variety of conditions.

757 Auto Extrication (1) *(Credit/No Credit grading.) Sixteen lecture hours per semester.* Instruction in and practical application of the skills needed to extricate a victim safely from a vehicle involved in an accident.

783 Firefighter I Academy (7) *Four lecture and eight lab hours per week plus sixteen lab hours per semester by arrangement.* Designed for pre-service instruction in basic fire fighting knowledge and skills. Lecture and manipulative instruction in all areas of responsibility for a fire fighter. (Certificate of completion will be issued by the Fire Technology Department.)

784 Firefighter Recruit Academy (10.5) *One hundred eighteen lecture and one hundred seventy-eight lab hours per semester. Prerequisite: FIRE 715, 783, 785 or employment as a firefighter.* Instruction in basic firefighting knowledge and skills for recruit firefighters. Lecture and manipulative instruction in all areas of responsibility for a firefighter except emergency medical care.

785 Emergency Medical Technician 1 Non Ambulance/Fire Service I (6) *Eighty-six lecture and sixty-four lab hours per semester.* Basic life support services under field emergency conditions, including cardiopulmonary resuscitation and preparation of victims for transport to an acute care hospital. (To increase competency, may be taken twice for a maximum of 12 units.)

787 Emergency Medical Technician 1 Non Ambulance/Fire Service II: Recent Advances (1.5) *(Credit/No Credit grading.) Twenty-four lecture and nine lab hours per semester. Prerequisite: possession of a valid EMT-1FS Certificate.* Refresher course in preparation for EMT-1FS recertification. Presents updated and new technology in the areas of emergency pre-hospital care. (May be taken four times to maintain skills and certification.)

788 Recruit Emergency Medical Technician 1 Non Ambulance/Fire Service (5) *(Credit/No Credit grading.) Sixty-six lecture and thirty lab hours per semester plus eighteen lab hours by arrangement.* Training in pre-hospital basic life support services under field emergency conditions.

880 - 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Foreign Languages

Students who expect to transfer to a four-year institution are strongly advised to study a foreign language at CSM. Please see individual listings for offerings in Chinese, French, German, Italian, Japanese, Latin, and Spanish.

French

Language Laboratory and Listening Requirement: since imitation, response, and independent practice are integral features of the study of a foreign language at the College, students enrolled in certain courses in foreign language are required to use the language laboratory as prescribed by each department.

110 Elementary French (5) *Five lecture hours plus two lab hours by arrangement per week. Recommended Preparation: eligibility for ENGL 800 or a higher English course.* Conversation in the language, dictation, reading, study of the fundamentals of grammar, simple oral and written exercises, and introduction to French and Francophone culture. (CSU/UC)

111 Elementary French I (3) *Three lecture hours plus one lab hour by arrangement per week. Recommended Preparation: eligibility for ENGL 800 or a higher English course.* Covers approximately half of the semester's work in French 110. (CSU/UC*)

112 Elementary French II (3) *Three lecture hours plus one lab hour by arrangement per week. Prerequisite: FREN 111 with a grade of C or higher.* Covers approximately the second half of the semester's work in French 110. (French 111 and 112 are equivalent to French 110.) (CSU/UC*)

115 Beginning French I (3) *(Telecourse) (Credit/No Credit or letter grade option.)* A televised course that introduces basic idiomatic conversation and fundamentals of grammar. Stresses oral proficiency. Written assignments and work with tapes required. (CSU/UC*)

116 Beginning French II (3) *(Telecourse) (Credit/No Credit or letter grade option.) Prerequisite: FREN 115 or equivalent with a grade of C or higher.* Continuation of French 115. Further study of conversation and grammar with stress on oral proficiency; requires written assignments and work with tapes. (Completion of FREN 115/116 is equivalent to completion of FREN 111/112.) (CSU/UC*)

117 Advanced Beginning French I (3) *(Telecourse) (Credit/No Credit or letter grade option.) Prerequisite: FREN 116 or equivalent with a grade of C or higher.* Continuation of French 116. Further study of conversation and grammar with continued emphasis on oral proficiency. Written

assignments and work with tapes required. (CSU/UC*)

120 Advanced Elementary French (5) *Five lecture hours plus two lab hours by arrangement per week. Prerequisite: FREN 110 or 112 with a grade of C or higher.* Conversation in the language, dictation, further study of grammar and sentence structure, and oral and written exercises. Further study of French and Francophone culture. (CSU/UC)

121 Advanced Elementary French I (3) *Three lecture hours plus one lab hour by arrangement per week. Prerequisite: FREN 110 or 112 or equivalent with a grade of C or higher.* Covers approximately the first half of the semester's work in French 120. (CSU/UC*)

122 Advanced Elementary French II (3) *Three lecture hours plus one lab hour by arrangement per week. Prerequisite: FREN 121 or equivalent with a grade of C or higher.* Covers approximately the second half of the semester's work in French 120. (French 121 and 122 are equivalent to French 120.) (CSU/UC*)

130 Intermediate French (5) *Five lecture hours plus one lab hour by arrangement per week. Prerequisite: FREN 120 or 122 with a grade of C or higher.* Reading of short stories, plays, or novels; review of grammar; conversation, composition, and dictation. (CSU/UC)

131 Intermediate French I (3) *Three lecture hours plus one-half lab hour by arrangement per week. Prerequisite: FREN 120 or 122 with a grade of C or higher.* Covers approximately the first half of the semester's work in French 130. (CSU/UC*)

132 Intermediate French II (3) *Three lecture hours plus one-half lab hour by arrangement per week. Prerequisite: FREN 131 with a grade of C or higher.* Covers approximately the second half of the semester's work in French 130. (French 131 and French 132 are equivalent to French 130.) (CSU/UC*)

140 Advanced Intermediate French (3) *Three lecture hours per week. Prerequisite: FREN 130 or 132 with a grade of C or higher.* Reading of selections from French literature, including a contemporary novel; further practice in conversation and composition; continued review of principles of grammar; analysis of idioms. (CSU/UC)

161 Reading in French Literature I (3) *Three lecture hours per week. Prerequisite: FREN 140 with a grade of C or higher.* Reading and discussion of works of French literature. Continued review of principles of grammar. (CSU/UC)

162 Reading in French Literature II (3) *Three lecture hours per week. Prerequisite: FREN 161 with a grade of C or higher.* Further reading and discussion of works of French literature. Continued review of principles of grammar. (CSU/UC)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

801 Conversational French I, Elementary (2) *(Credit/No Credit grading.) Three lecture hours per week.* A practical course in the French language approached by way of conversation. Intensive drill in the patterns and idioms of daily speech, supported by sufficient grammar to give flexibility in the spoken language. May be considered an excellent preparatory course for students who have not taken a foreign language before. (This course will not fulfill the language requirements at California State Universities or at the University of California.)

802 Conversational French II, Advanced Elementary (2) *(Credit/No Credit grading.) Three lecture hours per week. Prerequisite: FREN 801 or equivalent with credit.* Further work in conversation following the model of French 801. (This course will not fulfill the language requirements at California State Universities or at the University of California.)

803 Conversational French III, Intermediate (2) *(Credit/No Credit grading.) Three lecture hours per week. Prerequisite: FREN 802 or equivalent with credit.* More advanced work in conversation following the model of French 802. (This course will not fulfill the language requirements at California State Universities or at the University of California.)

804 Conversational French IV, Advanced Intermediate (2) *(Credit/No Credit grading.) Three lecture hours per week. Prerequisite: FREN 803 or equivalent with credit.* Further advanced work in conversation following the model of French 803. (This course will not fulfill the language requirements at California State Universities or at the University of California.)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Geography

100 Physical Geography (3) *(Credit/No Credit or letter grade option.) Three lecture hours per week plus field trips. Recommended Preparation: eligibility for ENGL 800.* Basic characteristics of physical features and their interrelationships; environmental systems and their interactions with man. Maps, photos, and the regional concept are the primary tools for this study. (Satisfies the General Education requirement for Physical Science.) (CSU/UC) (CAN GEOG 2)

110 Cultural Geography (3) *(Credit/No Credit or letter grade option.) Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Aerial distribution of the most important parts of human culture. Emphasizes the way people make a living resulting from their interaction with their environment in various parts of the world. (Satisfies Social Science requirement.) (CSU/UC) (CAN GEOG 4)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Geology

Unless otherwise indicated, a grade of C or higher is required for all prerequisite courses.

100 Survey of Geology (3) *Day: Three lecture hours per week plus two field trips; evening: three lecture hours per week plus two Saturday field trips. Not open to students who have taken or are taking GEOL 210.* Earthquakes, volcanoes, drifting continents, and plate tectonics; erosion of the land by water and glaciers. A sketch of the earth's history and the origin and evolution of life. (CSU/UC*)

101 Geology Laboratory (1) *Three lab hours per week. Prerequisite: completion of or concurrent enrollment in GEOL 100.* Optional introductory geology laboratory course designed to be taken concurrently

with or following GEOL 100. Identification of minerals, rocks, and fossils; seismographs; and geologic interpretation of maps and aerial photographs. Extra supplies may be required. One or more field trips may be required. (CSU/UC*)

210 General Geology (4) *Three lecture and three lab hours per week plus two field trips.* The work of wind, water, gravity, and glaciers; earthquakes, the earth's interior, drifting continents, and plate tectonics. Rocks and minerals and their identification. Interpretation of maps and aerial photographs. Extra supplies may be required. (CSU/UC*) (CAN GEOL 2)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

German

Language Laboratory and Listening

Requirement: since imitation, response, and independent practice are integral features of the study of a foreign language at the College, students enrolled in certain courses in foreign language are required to use the language laboratory as prescribed by each department.

110 Elementary German (5) *Five lecture hours plus two lab hours by arrangement per week. Recommended Preparation: eligibility for ENGL 800 or a higher English course.* Study and practice (both oral and written) of basic forms and patterns of German, development of a satisfactory pronunciation, learning and using vocabulary of high frequency, and reading of simple German texts. (CSU/UC)

111 Elementary German I (3) *Three lecture hours plus one lab hour by arrangement per week.* Covers approximately the first half of the semester's work in German 110. Recommended for those students without any background in foreign language study. (CSU/UC*)

112 Elementary German II (3) *Three lecture hours plus one lab hour by arrangement per week. Prerequisite: GERM 111 or equivalent with a grade of C or higher.* Covers approximately the second half of the semester's work in German 110. (German

111 and 112 are equivalent to German 110.) (CSU/UC*)

120 Advanced Elementary German (5) *Five lecture hours plus two lab hours by arrangement per week. Prerequisite: GERM 110 or 112 or equivalent with a grade of C or higher.* Continuation of work begun in German 110 with further practice in listening, speaking, reading, and writing. (CSU/UC)

121 Advanced Elementary German I (3) *Three lecture hours plus one lab hour by arrangement per week. Prerequisite: GERM 110 or 112 or equivalent with a grade of C or higher.* Covers approximately the first half of the semester's work in German 120. (CSU/UC*)

122 Advanced Elementary German II (3) *Three lecture hours plus one lab hour by arrangement per week. Prerequisite: GERM 121 or equivalent with a grade of C or higher.* Covers approximately the second half of the semester's work in German 120. (German 121 and 122 are equivalent to German 120.) (CSU/UC*)

130 Intermediate German (5) *Five lecture hours plus one lab hour by arrangement per week. Prerequisite: GERM 120 or 122 or equivalent with a grade of C or higher.* Review of grammar and syntax; reading of short works of fiction and nonfiction. (CSU/UC)

131 Intermediate German I (3) *Three lecture hours plus one lab hour by arrangement per week. Prerequisite: GERM 120 or 122 or equivalent with a grade of C or higher.* Covers approximately the first half of the semester's work in German 130. (CSU/UC*)

132 Intermediate German II (3) *Three lecture hours plus one lab hour by arrangement per week. Prerequisite: GERM 131 or equivalent with a grade of C or higher.* Covers approximately the second half of the semester's work in German 130. (German 131 and 132 are equivalent to German 130.) (CSU/UC*)

140 Advanced Intermediate German (3) *Three lecture hours per week. Prerequisite: GERM 130 or 132 or equivalent with a grade of C or higher.* Reading and discussion of selections from German literature; further practice in conversation and composition; continued review of principles of grammar. (CSU/UC)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)



German classes are taught by professor Diane Musgrave. CSM also offers Chinese, French, Italian, Japanese, Latin and Spanish.

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

801 Conversational German I, Elementary (2) (*Credit/No Credit grading.*) *Three lecture hours per week.* A practical course in the German language approached by way of conversation. Intensive drill in the patterns and idioms of daily speech, supported with sufficient grammar to give flexibility in the spoken language. May be considered an excellent preparatory course for students who have not taken a foreign language before. (This course will not fulfill the language requirement at California State Universities or at the University of California.)

802 Conversational German II, Advanced Elementary (2) (*Credit/No Credit grading.*) *Three lecture hours per week. Prerequisite: GERM 801 or equivalent with credit.* Further work in conversation following the model of German 801. (This course will not fulfill the language requirement at California State Universities or at the University of California.)

803 Conversational German III, Intermediate (2) (*Credit/No Credit grading.*) *Three lecture hours per week. Prerequisite: GERM 802 or equivalent with credit.* Advanced work in German following the model of German 802. (This course will not fulfill the language requirement at California State Universities or at the University of California.)

(CSU) Transferable to California State Universities, (UC) Transferable to University of California, (*) With limitations

804 Conversational German IV, Advanced Intermediate (2) (*Credit/No Credit grading.*) *Three lecture hours per week. Prerequisite: GERM 803 or equivalent with credit.* More advanced work in conversation following the model of German 803. (This course will not fulfill the language requirement at California State Universities or at the University of California.)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Health Science

Two units of Health Science required for A.A./A.S. Degree. Health Science 100 or two units of Health Science 101-114 will satisfy the A.A./A.S. Degree requirement.

100 General Health Science (2) *Two lecture hours per week.* Survey of today's most prevalent health problems, including heart disease, cancer, venereal disease, birth control, drug abuse, and emotional disorders. Emphasizes detection, treatment, and prevention of personal and social health problems as well as the promotion of physical and emotional well-being. (CSU/UC*)

101 Heredity and Birth Defects (1) *Two lecture hours per week for eight weeks.* Study of the principles of human genetics, cell division, and prenatal development. Emphasizes the causes, prevention, and treatment of the most common hereditary and environment-induced birth defects. (CSU)

102 Human Reproduction (1) *Two lecture hours per week for eight weeks.* Emphasizes the biological aspects of human reproduction and birth control. Also covers new fertilization techniques, population dynamics, predetermination of sex, and related topics. (CSU)

103 Drugs: Use and Abuse (1) *Two lecture hours per week for eight weeks.* Study of the general categories of drugs; discussion of beneficial and harmful effects that selected drugs have upon the individual and society. (CSU)

105 Communicable Disease (1) *Two lecture hours per week for eight weeks.* Study of the immune system and other defenses against infectious organisms. Emphasizes prevention and treatment of our most serious communicable disorders, with special consideration of AIDS and other sexually transmitted diseases. (CSU)

106 Emotional Health (1) *Two lecture hours per week for eight weeks.* Study of human needs and personality development. Includes discussions of emotional disorders and their causes but emphasizes positive approaches to developing and maintaining emotional stability. (CSU)

109 Environmental Health (1) *Two lecture hours per week for eight weeks.* Principles of ecology and critical appraisal of people's effect on the environment. Discussion of many types of environmental hazards and pollutants, emphasizing their effect on human health. (CSU)

111 Heart Disease and Cancer (1) *Two lecture hours per week for eight weeks.* Study of the two leading causes of death in the U.S. today, emphasizing prevention. Also covers causes, symptoms and warning signs, detection, and treatment. (CSU)

112 Current Health Issues (1) *Two lecture hours per week for eight weeks.* Analysis of the most important and most controversial health issues making today's headlines. Class discussions, supported by appropriate biological, medical, legal, and historical information. (CSU)

113 Selected Topics in Nutrition (1) *Two lecture hours per week for eight weeks.* Practical study of the principles of nutrition. Focuses on nutritional understanding, emphasizing the role of essential nutrients; identification of affordable sources of essential nutrients; selection of diet; evaluation of nutritional claims; responding to new information; and the role of nutrition in weight control. (CSU)

114 Fitness (1) *Two lecture hours per week for eight weeks. Recommended Preparation: HSCI 113.* Practical study of the principles of exercise in total fitness. Provides tools to promote positive changes in students' understanding and development of fitness. Includes personalized physiological profile analysis. (CSU)

641 Cooperative Education (1-4) (See first page of Description of Courses section.) (CSU)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

History

(Also see Humanities)

100 History of Western Civilization I (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* The rise and decline of the civilization of the ancient world, the rise of Christianity, the growth and decline of Medieval society, the Renaissance, the Reformation, and the opening of the modern world. (HIST 100-102 fulfills American Institutions requirement.) (CSU/UC) (CAN HIST 2)

101 History of Western Civilization II (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* The rise of modern Europe: the Enlightenment, the French Revolution, and the growth of Liberalism and nationalism. The emergence of modern society, economic problems of industrialization, development of modern ideologies, the World Wars, and international experiments of the 20th Century. (HIST 101-102 fulfills American Institutions requirement.) (CSU/UC) (CAN HIST 4)

102 History of American Civilization (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Social, cultural, and political development of the area of the United States from the colonial period through the age of revolution, early independence, reform and sectional crisis in the 19th Century to the problems of industrialization and the emergence of modern society. Effects of expansionism and immigration in the 19th and 20th Centuries upon the culture of America and the role of the United States in a pluralistic contemporary world. (HIST 100 or 101 plus HIST 102 fulfills American Institutions requirement.) (CSU/UC*)

103 Western Tradition I (2) (*Telecourse*) (*Credit/No Credit or letter grade option.*) *Recommended Preparation: eligibility for ENGL 800.* Covers the rise and decline of the civilization of the ancient world, the rise of Christianity, the growth and decline of Medieval society, the renaissance, and the age of exploration. (May not be taken for credit following History 100.) (CSU/UC*)

110 History of England (3) (*Credit/No Credit or letter grade option.*) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Surveys the more important political, constitutional, economic, social, and cultural phases of the history of the English people. (CSU/UC)

201 United States History I (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Survey of European expansionism in America, Indian-White encounters, colonial culture and institutions, the Revolution, the implementation of the Constitution, the Federalist and Jeffersonian eras, the age of Jackson, the slavery issue, and the Civil War. Covers economic, political, social, and cultural developments of the period. (HIST 201-202 fulfills American Institutions requirement.) (CSU/UC*) (CAN HIST 8)

202 United States History II (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Continues the work of History 201; explores the Reconstruction period, industrial expansion, social and economic development, and the foreign policies of the U.S. to the present. (HIST 201-202 fulfills American Institutions requirement.) (CSU/UC*) (CAN HIST 10)

242 The African-American in U.S. History (3) *Three lecture hours per week. Recommended Preparation: HIST 201 and eligibility for ENGL 800.* Social, economic, and political facts as they relate to the African-American. Analyzes race relations, with special emphasis on the history of the African-American. (HIST 201 or 202 plus HIST 242 fulfills American Institutions requirement.) (CSU/UC)

260 Women in American History (3) *(Credit/No Credit or letter grade option.) Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Survey of the role played by American women from colonial times to the present. Explores the part played by American women of different racial and local origins. Examines attitudes of women as well as attitudes about women in America. (HIST 201 or 202 plus HIST 260 fulfills American Institutions requirement.) (CSU/UC)

270 Civil War and Reconstruction (3) *Three lecture hours per week. Recommended Preparation: HIST 201 or 202 and eligibility for ENGL 800.* Survey and analysis of the political, social, and economic problems of the North and South during the antebellum, Civil War, and Reconstruction eras. (HIST 201 or 202 plus HIST 270 fulfills American Institutions requirement.) (CSU/UC)

310 California History (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Survey of

major topics in California's rapid growth, including the Indian culture; discovery and Spanish colonization; the Mexican period; the mission-ranchero era; the American take-over; the Gold Rush and the vigilante eras; the constitutional, political, and economic growth of the State; and contemporary social, multi-ethnic and economic issues as the most populous state in the Union. (Satisfies the requirement in California State and Local Government.) (CSU/UC)

315 History of San Mateo County (3) *(Credit/No Credit or letter grade option.) Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Survey of the county's development to the present. The natural setting; discovery and exploration; mission-ranchero era; establishment of county government; advent of railroads; lumbering; industry; growth of Bayside and Coastside communities; and the Peninsula's relation to the state and the nation. (Satisfies the requirement in California State and Local Government.) (CSU)

350 History of the American West (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* The movement of Americans west of the Mississippi River, with an emphasis on fur trading, cattle raising, farming, mining, railroads, community-building, Indian problems, and the character and image of the West and Westerners. (HIST 201 or 202 plus HIST 350 fulfills American Institutions requirement.) (CSU/UC)

360 The South in American History (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Survey course of the fifteen former slave states from the Colonial through the National period, the Civil War and Reconstruction; Populism and the "New South," the 20th Century; Southern industrialization; the New Deal; the revolution of the Civil Rights Movement; and the election of Jimmy Carter. (HIST 201 or 202 plus HIST 360 fulfills American Institutions requirement.) (CSU/UC)

680 - 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

880 - 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Horticulture

311 Plant Materials I: Trees (3) *(Credit/No Credit or letter grade option.) Two lecture and three lab hours per week.* Growth habits, cultural requirements, and landscape uses of ornamental trees adapted to the climates of California. (CSU/UC)

312 Plant Materials II: Shrubs and Groundcovers (3) *(Credit/No Credit or letter grade option.) Two lecture and three lab hours per week.* Growth habits, cultural requirements, and landscape; uses of ornamental shrubs and ground covers adapted to the climates of California. (CSU/UC)

315 Landscape Management (3) *(Credit/No Credit or letter grade option.) Two lecture and three lab hours per week.* Culture and maintenance of turf areas, ground covers, annuals, perennials, shrubs and trees. Landscape water management. Operation of landscape maintenance equipment. (CSU)

320 Introductory Plant Science (3) *(Credit/No Credit or letter grade option.) Two lecture and three lab hours per week.* Introduction to scientific principles of higher plant structure, function, and reproduction to serve as a basis for further practical course work in the field of horticulture. (CSU/UC)

325 Interior Plantscape (3) *(Credit/No Credit or letter grade option.) Three lecture hours per week.* Study of various types of plant materials, containers, and growing media and of the environmental factors that affect plants used in interior plantscaping of commercial offices, hotels, and shopping centers. (CSU)

327 Nursery Management (3) *(Credit/No Credit or letter grade option.) Two lecture and three lab hours per week.* History of the greenhouse industry. Practical application of the principles of nursery practice, including location, greenhouse design, equipment, and accessories required in a modern nursery. Plant propagation and plant growing techniques, using the college greenhouse. Field trips to outstanding nurseries. (CSU)

330 Pest Control (3) *(Credit/No Credit or letter grade option.) Two lecture and three lab hours per week.* Symptoms, identification, and methods of control of the principal diseases, pests, and weeds important in California landscape industry. Chemical, biological, and cultural control and prevention. (CSU)

340 Principles of Landscape Design (4) (*Credit/No Credit or letter grade option.*) *Two lecture and six lab hours per week.* Graphics, drafting, perspective, surveying, environmental planning, history, and design for the residential landscape. Extra supplies required. (CSU)

341 Advanced Landscape Design (3) (*Credit/No Credit or letter grade option.*) *Two lecture and three lab hours per week.* *Prerequisite: HORT 340 or equivalent.* Advanced graphics techniques, environmental planning and design, planting, structures, engineering, materials, and history of landscaping. (CSU/UC)

342 Landscape Construction (3) (*Credit/No Credit or letter grade option.*) *Two lecture and three lab hours per week.* Planting and construction techniques: design, installation, and maintenance of sprinkler systems; cost finding and estimating for the landscape trades, including legal aspects of contracting. (Assists students in preparing for Landscape Contractor's License Examination.) (CSU)

410 Introduction to Floristry (1.5) (*Credit/No Credit or letter grade option.*) *One lecture hour and two lab hours per week.* Introduction to flowers, foliage and the mechanics of floral design. (CSU)

411 Basic Floristry (3) (*Credit/No Credit or letter grade option.*) *Two lecture and three lab hours per week.* Introduction to the care, identification, and mechanics of basic floral design. Surveys both historical and modern methods. Extra supplies required. (CSU)

413 Intermediate Floristry (3) (*Credit/No Credit or letter grade option.*) *Two lecture and three lab hours per week.* *Prerequisite: HORT 411 or equivalent.* Continuation of the study of floral design, emphasizing modern and European styles, techniques, and philosophy, and the development of speed and proficiency. Extra supplies required. (CSU)

414 Advanced Floristry (3) (*Credit/No Credit or letter grade option.*) *Two lecture and three lab hours per week.* *Prerequisite: HORT 413 or equivalent.* Advanced study of commercial floral design, focusing on wedding, funeral, and party arrangements. Emphasizes the development of individual design skills. Extra supplies required. (CSU)

415 Retail Floristry Management (3) (*Credit/No Credit or letter grade option.*) *Three lecture hours per week.* Procedures

used in operating a florist shop, including merchandising, accounting, advertising, employee relations, planning, buying, and marketing. (CSU)

417 European Floral Design (1.5) (*Credit/No Credit or letter grade option.*) *One lecture hour and two lab hours per week.* Study of floral design with emphasis on modern European styles. Extra supplies required. (CSU)

418 Introduction to Ikebana (3) (*Credit/No Credit or letter grade option.*) *Two lecture and three lab hours per week.* Study of Japanese flower arranging, its history, philosophy, method and practice. Develops skills pertinent to the three schools of Ikebana (Ikenobo, Ohara, and Sogetsu). Extra supplies required. (CSU)

419 Bridal and Party Designs (1.5) (*Credit/No Credit or letter grade option.*) *One lecture and two lab hours per week.* *Prerequisite: HORT 413 or equivalent.* Advanced study of floral design focusing on wedding and party work. Emphasizes reception, church, bridal party, theme parties, and centerpieces. Extra supplies required. (CSU)

420 Dry/Silk Floral Design and Display (3) (*Credit/No Credit or letter grade option.*) *Two lecture and three lab hours per week.* *Prerequisite: HORT 411.* Commercial methods of flower arranging to develop original design skills in the use of dry and silk flowers in various combinations. Extra supplies required. (CSU)

421 Contemporary Ikebana (1.5) (*Credit/No Credit or letter grade option.*) *One lecture and two lab hours per week.* Study of Japanese flower arranging, its history, philosophy, method and practice. Covers three schools of Ikebana (Ikenobo, Ohara, and Sogetsu) and includes work toward a certificate from the Sogetsu School. Extra supplies required. (May be taken four times for a maximum of 6 units.) (CSU)

641 Cooperative Education (1-4) (See first page of Description of Courses section.) (CSU)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

701 Ornamental Horticulture I (3) (*Credit/No Credit or letter grade option.*) *Three lecture hours per week.* Soils, manures, and fertilizers; lawn establishment and management. (CSU)

702 Ornamental Horticulture II (3) (*Credit/No Credit or letter grade option.*) *Three lecture hours per week.* Landscape management: pruning training of trees and shrubs; garden color using annuals, perennials, and bulbs. Basic pest control, including safety and storage of pesticides. (CSU)

705 Soils and Plant Growing (3) (*Credit/No Credit or letter grade option.*) *Three lecture hours per week.* Fundamental principles of soils, soil management, fertility, and plant nutrition. Soil types, origins, characteristics, and biological relationships. Commercial and natural fertilizers; soil conditioners; growing media; crop rotation; and watering. (CSU)

706 Plant Propagation (3) (*Credit/No Credit or letter grade option.*) *Three lecture hours per week.* Principles and practices of propagating plants for sale for landscape use, including laboratory work in making cuttings, grafting and budding, potting, and canning. Visits to wholesale and retail nurseries. Seedage, cuttage, layerage, and plant breeding and improvement. (CSU)

709 Principles of Landscaping (3) (*Credit/No Credit or letter grade option.*) *Three lecture hours per week.* Introduction to principles of residential landscaping, emphasizing fundamental design and construction. (CSU)

711 Landscape: Trees (3) (*Credit/No Credit or letter grade option.*) *Three lecture hours per week.* Tree classification, description, nomenclature, and morphology. Study in class of trees commonly used in California parks and gardens. Emphasizes plant identification. (CSU)

712 Landscape: Shrubs (3) (*Credit/No Credit or letter grade option.*) *Three lecture hours per week.* Study of shrubs and ground covers commonly used in California. (CSU)

721 Landscape Construction I (3) (*Credit/No Credit or letter grade option.*) *Three lecture hours per week.* Study of irrigation systems. Emphasizes piping, fittings, equipment, design, installation, and maintenance. (CSU)

722 Landscape Construction II (3) (*Credit/No Credit or letter grade option.*) *Three lecture hours per week.* Emphasizes installation of lawns, decks, patios, paths, and related elements. Includes contractor's license requirements and estimating. (CSU)

731 Arboriculture (3) (*Credit/No Credit or letter grade option.*) *Three lecture hours per week.* Principles and practices of arbori-

culture, emphasizing care and maintenance of landscape trees. Study of the training and management of fruit trees, bush fruits, and ornamental shrubs. (CSU)

742 Greenhouse Management (3) (*Credit/No Credit or letter grade option.*) *Three lecture hours per week.* Propagation and culture of roses, carnations, chrysanthemums, orchids, potted plants, and other greenhouse crops. Pest and disease control. (CSU)

777 Pest Control I (2) (*Credit/No Credit or letter grade option.*) *Two lecture hours and one lab hour per week.* History and development of ornamental plant pesticides and biological controls. Emphasizes integrated pest management, especially San Francisco Bay Area pests and their control. Demonstrates testing and application equipment. Includes insect and related pests, their anatomy, growth, life cycles and classification. Preparation for State applicator's, advisor's, and operator's licenses. (CSU)

778 Pest Control II (2) (*Credit/No Credit or letter grade option.*) *Two lecture hours and one lab hour per week.* Study of the biological (bacterial, fungal and viral) and abiotic (temperature, light, soil, water and air) causes of plant diseases. Study of the common weeds and vertebrate pests in ornamental gardens. Reviews controls, with an emphasis on Integrated Pest Management, including cultural, biological, and chemical. (CSU)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Humanities

(Also see *History and Philosophy*)

101 Introduction to Humanities: Greece through Reformation (3) (*Credit/No Credit or letter grade option.*) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Explores the major cultural and intellectual movements of Western Civilization from Greece through the Reformation. Considers the development of literature, art, architecture, and music, along with their relationship to mythological, religious, and scientific attitudes toward man, nature, and God. (CSU/UC)

102 Introduction to Humanities: Reformation to Present (3) (*Credit/No Credit or letter grade option.*) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Explores the major cultural and intellectual movements of

Western Civilization from the Reformation to the present. Considers the development of literature, art, architecture, and music, along with their relationship to mythological, religious, and scientific attitudes toward man, nature, and God. (CSU/UC)

111 Religion, Literature, and Philosophy in Ancient Greece (3) (*Credit/No Credit or letter grade option.*) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Examples drawn from Greek tragedy and philosophy focus on changing attitudes toward the gods, the hero, nature, society, and personal development. Explores concepts of justice, the significance of suffering and attitudes toward fate, human freedom, and responsibility. (CSU/UC)

112 Art and Architecture – Late Roman Empire to Renaissance (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* The development of art and architecture from the early centuries to the end of the Middle Ages. The rise of Christianity, church vs. state, Medievalism, the Renaissance, and Counter-Reformation. (CSU/UC)

113 The Social and Cultural Impact of the Scientific Revolution -17th through 19th Centuries (3) (*Credit/No Credit or letter grade option.*) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Examines the development of modern science and the impact of the New Science on life and culture in the 17th through 19th Centuries from a humanistic perspective. Includes new conceptions of human destiny; the new scientific method and "reality"; the social and ecological effects of industrialization; the impact of technologically advanced Europe on the rest of the world; literary, artistic, philosophical, and political reactions to the new scientific culture; and the limitations of the scientific values and world view. (CSU/UC)

114 Film and Literature as Communication in the 20th Century (3) (*Credit/No Credit or letter grade option.*) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Traces the part played by literature and film in reflecting and bringing about major changes in perception, consciousness, and thought and deals with some of the problems consequent to these changes. (CSU/UC)

125 Technology/Contemporary Society/ Human Values (3) *Three lecture hours per week. Recommended Preparation: eligi-*

bility for ENGL 800. Humanistic and critical analysis of the impact of contemporary technology on the environment, economic and political systems, warfare, education, medicine, philosophy, behavior control, and human relations. Examines reasons for the rise of technological civilization in the West, the phenomenology of modern technology, and the problem of control. (CSU/UC)

127 Science and Art I: Prehistory to Renaissance (3) (*Credit/No Credit or letter grade option.*) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Changing ideas of nature and the cosmos, from prehistory to the age of Newton. Development of scientific concepts of nature and their effect on man's perceptions of the world, as reflected in changing styles of art, music, literature, and philosophy. Social and cultural values that influenced and were influenced by scientific and artistic events of the time. (Completion of HUM. 127 and 128 satisfies three units of Physical Science and three units of Humanities credit for the AA/AS degree. Either course taken alone satisfies three units of Humanities credit only.) (CSU/UC)

128 Science and Art II: Renaissance to 20th Century (3) (*Credit/No Credit or letter grade option.*) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Changing ideas of nature and the cosmos, from the Scientific Revolution to the 20th Century. Development of scientific concepts of nature and their effect on man's perceptions of the world, as reflected in changing styles of art, music, literature, and philosophy. Social and cultural values that influenced and were influenced by scientific and artistic events of the time. (Completion of HUM. 127 and 128 satisfies three units of Physical Science and three units of Humanities credit for the AA/AS degree. Either course taken alone satisfies three units of Humanities credit only.) (CSU/UC)

131 Cultural Achievements of African-Americans (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Introduction to Black aesthetics, concentrating on the religious, philosophical, literary, musical, and art forms of Africa and African-Americans. Explores the relationship that philosophy, myth, religion and socio-political traditions have had with each other by examining the arts, literature, film, music, and other creative forces. (CSU/UC)

133 Cultural Achievements of Asian Americans (3) *Three lecture hours per week. Recommended Preparation: previous Ethnic Studies courses and eligibility for ENGL 800.* Develops an awareness and understanding of Asian cultures through study of the heritage in religion, family, literature, music, arts, crafts, and foods. Includes guest lecturers, tours, demonstrations, and hands-on experiences. (CSU/UC)

136 Creative Women in Modern Times (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Explores the works and projects created by women in the Western world from the Renaissance to the present, including the achievements of women in statecraft, philosophy, the visual arts, music, photography, and film-making, especially in the 19th and 20th Centuries. (CSU/UC)

140 Cultural Heritage of San Francisco and Its Environs (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Survey of the history, art, architecture, music, literature, and geography of San Francisco. Covers early California as well as the present but emphasizes the decades from the Gold Rush to the early part of the 20th Century. (CSU)

675 Honors Colloquium in Western Civilization I (1) *One lecture hour per week. Prerequisite: limited to students in the Honors Program who have completed or are concurrently enrolled in an associated non-honors course in Western Civilization or the equivalent.* Readings, discussion, and lectures covering selected advanced topics in Western Civilization to be determined by the Humanities Department and the Honors Program. (CSU/UC*)

676 Honors Colloquium in Western Civilization II (1) *One lecture hour per week. Prerequisite: limited to students in the Honors Program who have completed or are concurrently enrolled in an associated non-honors course in Western Civilization or the equivalent.* Readings, discussion, and lectures covering selected advanced topics in Western Civilization to be determined by the Humanities Department and the Honors Program. (CSU/UC*)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Italian

Language Laboratory and Listening

Requirement: since imitation, response, and independent practice are integral features of the study of a foreign language at the College, students enrolled in certain courses in foreign language are required to use the language laboratory as prescribed by each department. Note: To be transferable to UC, Italian courses must be taken for letter grade.

111 Elementary Italian I (3) (*Credit/No Credit or letter grade option.*) *Three lecture hours plus one lab hour by arrangement per week. Recommended Preparation: eligibility for ENGL 811 or higher English course.* Introduction to elementary communication in Italian based on oral and written exercises; acquisition of basic vocabulary and structures as well as cultural material studied in graded readings. (CSU/UC*)

112 Elementary Italian II (3) (*Credit/No Credit or letter grade option.*) *Three lecture hours plus one lab hour by arrangement per week. Prerequisite: ITAL 111 or equivalent with credit or a grade of C or higher.* Continuation of ITAL 111. Further study in elementary Italian based on oral and written exercises; acquisition of basic vocabulary and structures as well as cultural material studied in graded readings. (CSU/UC*)

121 Advanced Elementary Italian I (3) (*Credit/No Credit or letter grade option.*) *Three lecture hours plus one lab hour by arrangement per week. Prerequisite: ITAL 112 or equivalent with Credit or a grade of C or higher.* Further study of grammar and sentence structure, oral and written exercises, conversation in Italian, and dictation. Further study of Italian culture. (CSU/UC*)

122 Advanced Elementary Italian II (3) (*Credit/No Credit or letter grade option.*) *Three lecture hours plus one lab hour by arrangement per week. Prerequisite: ITAL 121 or equivalent with Credit or a grade of C or higher.* Further study of grammar and sentence structure, oral and written exercises, conversation in Italian, and dictation. Further study of Italian culture. (CSU/UC*)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Japanese

Language Laboratory and Listening

Requirement: since imitation, response, and independent practice are integral features of the study of a foreign language at the College, students enrolled in certain courses in foreign language are required to use the language laboratory as prescribed by each department.

110 Elementary Japanese (5) *Five lecture hours plus one lab hour by arrangement per week.* A beginning course in Japanese emphasizing oral expression, reading, and written forms. (CSU/UC)

111 Elementary Japanese I (3) *Three lecture hours plus one lab hour by arrangement per week.* Covers approximately the first half of the semester's work in Japanese 110. (CSU/UC*)

112 Elementary Japanese II (3) *Three lecture hours plus one lab hour by arrangement per week. Prerequisite: JAPN 111 or equivalent with a grade of C or higher.* Covers approximately the second half of the semester's work in Japanese 110. (Japanese 111 and 112 are equivalent to Japanese 110.) (CSU/UC*)

120 Advanced Elementary Japanese (5) *Five lecture hours plus one lab hour by arrangement per week. Prerequisite: JAPN 110 or 112 or equivalent with a grade of C or higher.* Further study of basic patterns of Japanese. (CSU/UC)

121 Advanced Elementary Japanese I (3) *Three lecture hours plus one lab hour by arrangement per week. Prerequisite: JAPN 110 or 112 or equivalent with a grade of C or higher.* Covers approximately half of the semester's work in Japanese 120. (CSU/UC*)

122 Advanced Elementary Japanese II (3) *Three lecture hours plus one lab hour by arrangement per week. Prerequisite: JAPN 121 or equivalent with a grade of C or higher.* Covers approximately the second half of the semester's work in Japanese 120. (Japanese 121 and 122 are equivalent to Japanese 120.) (CSU/UC*)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Journalism

110 Introduction to Journalism (3)
Three lecture hours per week. Study of the historical background and modern functioning of the press (newspaper, radio, magazine, and television) in a democratic society, and its values and shortcomings. Covers the rights and duties of journalists and the legal limits of the freedom of the press. (CSU/UC) (CAN JOUR 4)

120 Newswriting (4) *Three lecture and three lab hours per week. Prerequisite: eligibility for ENGL 800.* Techniques of news gathering, judging news values, and writing the news story. For practical experience, students write for the college paper, *The San Matean*, thus preparing them for future newspaper work. (CSU) (CAN JOUR 2)

300 Newspaper Production (2) *Six lab hours per week.* Production of the student newspaper, *The San Matean*. Discussion and criticism of staff organization and newspaper content. (To increase competency, may be taken three times for a maximum of 6 units.) (CSU)

641 Cooperative Education (1-4) (See first page of Description of Courses section.) (CSU)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Latin

111 Elementary Latin I (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 100.* Introductory course in Latin dealing with pronunciation, reading, and writing. Study of English cognates and derivatives. (CSU/UC)

112 Elementary Latin II (3) *Three lecture hours per week. Prerequisite: LAT. 111 or equivalent with a grade of C or higher.* Continued study of basic Latin vocabulary, grammar, and syntax. Reading of short prose selections. (CSU/UC)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

Library Studies

100 Introduction to Library Studies (1)
(Open entry/open exit) Three lab hours per week. A self-paced course in the use and mastery of standard library tools and resources. Provides practical, hands-on introduction to library organization, access tools (card catalogs and indexes), and reference materials. Outlines research strategies. (CSU/UC)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Life Sciences

(See *Biology*)

Literature

101 Twentieth-Century Literature (3)
Three lecture hours per week. Prerequisite: ENGL 110, 120, 130, or 140 or equivalent. Study of selected fiction, poetry, and drama of the 20th Century. Lectures, discussions, related reading, and writing of critical papers. (CSU/UC)

105 The Bible as Literature (3) *Three lecture hours per week. Prerequisite: ENGL 110, 120, 130, or 140 or equivalent.* Study of the significant writings of the Old and New Testaments and of the Apocrypha. (CSU/UC)

111 The Short Story (2) *Two lecture hours per week. Prerequisite: ENGL 110, 120, 130, or 140 or equivalent.* Study of short stories. Class discussion and occasional writing, both analytical and creative. (CSU/UC)

113 The Novel (3) *Three lecture hours per week. Prerequisite: ENGL 110, 120, 130, or 140 or equivalent.* Study of novels of the late 19th and the 20th Century and of various aspects of literary criticism. Reading, discussion, and critical papers. (CSU/UC)

115 Introduction to Poetry (3) *Three lecture hours per week. Prerequisite: ENGL 110, 120, 130, or 140 or equivalent.* Study of poetry from the time of Chaucer to the present. Lectures, discussions, related reading, and critical papers. (CSU/UC)

143 Modern Drama (3) *Three lecture hours per week. Prerequisite: ENGL 110, 120, 130, or 140 or equivalent.* Study— from a theatrical as well as a literary point of view— of the outstanding masterpieces of the modern theater. Lectures, discussions, critical papers, and recorded performances by professional actors. (CSU/UC)

151 Shakespeare (3) *Three lecture hours per week. Prerequisite: ENGL 110, 120, 130, or 140 or equivalent.* Study of representative plays and poems. Reading, discussion, critical papers, tests. (CSU/UC)

153 Shakespeare (1-3) (*Credit/No Credit grading.*) *Three lecture hours per week. Prerequisite: ENGL 110, 120, 130, or 140 or equivalent.* Offered in three one-unit modules per semester. Study of representative plays and poems, with emphasis on Shakespeare's poetic and dramatic skills and techniques and his understanding of human nature. Reading, discussion, critical papers, tests. (CSU/UC*)

201 American Literature I (3) *Three lecture hours per week. Prerequisite: ENGL 110, 120, 130, or 140 or equivalent.* Study of American literature from the beginning through the period of Mark Twain. Lectures, reading, analysis and discussion of selected works, and critical papers. (CSU/UC) (CAN ENGL 14)

202 American Literature II (3) *Three lecture hours per week. Prerequisite: ENGL 110, 120, 130, or 140 or equivalent.* Study of American literature since Mark Twain. Lectures, reading, analysis and discussion of selected works, and critical papers. (CSU/UC) (CAN ENGL 16)

231 Survey of English Literature I (3)
Three lecture hours per week. Prerequisite: ENGL 110, 120, 130, or 140 or equivalent. Study of the typical works of major English writers from the time of Chaucer to the end of the 18th Century. Lectures, discussions, recorded readings, and critical papers. (Rec-

ommended for English majors.) (CSU/UC) (CAN ENGL 8)

232 Survey of English Literature II (3) *Three lecture hours per week. Prerequisite: ENGL 110, 120, 130, or 140 or equivalent.* Study of the typical works of major English writers of the 19th and 20th Centuries. Lectures, discussions, recorded readings, and critical papers. (Recommended for English majors.) (CSU/UC) (CAN ENGL 10)

251 Women in Literature (3) *Three lecture hours per week. Prerequisite: ENGL 110, 120, 130, or 140 or equivalent.* Images of women in literature from 1600 to the present. Study of selected women writers. Reading, discussion, and critical papers. (CSU/UC)

301 World Literature Masterpieces I (3) *Three lecture hours per week. Prerequisite: ENGL 110, 120, 130, or 140 or equivalent.* Study of selected works of world literature from Oriental and Occidental classical periods through the 17th Century. Reading, discussion, lectures, and critical papers. (CSU/UC)

302 World Literature Masterpieces II (3) *Three lecture hours per week. Prerequisite: ENGL 110, 120, 130, or 140 or equivalent.* Study of selected works of world literature by African, Asian, European, and South American authors writing in periods from the 18th Century to the present. Readings, discussion, lectures, and critical papers. (CSU/UC)

430 Mythology and Folklore (3) *Three lecture hours per week. Prerequisite: ENGL 110, 120, 130, or 140 or equivalent.* Survey of major gods and heroes, recurring mythological themes, and relationships between man and his gods, primarily in the Greek and Roman cultures. (CSU/UC)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Machine Tool Technology

110 Introduction to Machine Tool Theory for the Lathe (1.5) *Three lecture hours per week for eight weeks. Corequisite: concurrent enrollment in MTT 111 and*

MANU 101 or 102. Basic theory of metal removal with emphasis on lathe operation, measurement, cutting tools, safety, and other related subjects. (CSU)

111 Introduction to Machine Tool Practice for the Lathe (1.5) *Nine lab hours per week for eight weeks plus one lab hour per week by arrangement. Corequisite: concurrent enrollment in MTT 110.* Lab experience in lathe set-ups, tool grinding, surface finish, precision measurement, cutting tools, safety, and other related subjects. (CSU)

120 Advanced Machine Tool Theory for the Lathe (1.5) *Three lecture hours per week for eight weeks. Prerequisites: MTT 110/111. Corequisite: concurrent enrollment in MTT 121 and MANU 101 or 102.* Advanced machining processes with emphasis on thread specifications, surface finishes, metric measurements, tapers, and applied math problems. (CSU)

121 Advanced Machine Tool Practice for the Lathe (1.5) *Nine lab hours per week for eight weeks plus one lab hour per week by arrangement. Corequisite: concurrent enrollment in MTT 120.* Lathe operations to cut threads and tapers and perform advance work in surface finishes and measurements. (Lab supplies required.) (CSU)

200 Introduction to Machine Tool Technology (2) *One lecture hour and three lab hours per week.* Survey course for the manufacturing technology student who requires a generalized experience in machine tools. Includes instruction in bench work, measurement, threads, cutting tools, lathe, mill, grinding, saws and, others. (Lab supplies required.) (CSU)

210 Introduction to Machine Tool Theory for the Mill (1.5) *Three lecture hours per week for eight weeks. Corequisite: concurrent enrollment in MTT 211 and MANU 101 or 102.* Basic theory of metal removal with emphasis on milling operation, cutter applications, and measurements. (CSU)

211 Introduction to Machine Tool Practice for the Mill (1.5) *Nine lab hours per week for eight weeks plus one lab hour per week by arrangement. Corequisite: concurrent enrollment in MTT 210.* Milling machine operations with emphasis on set-ups, layouts, and precision measurements. (Lab supplies required.) (CSU)

220 Advanced Machine Tool Theory for the Mill (1.5) *Three lecture hours per week for eight weeks. Prerequisites: MTT 210/211. Corequisite: concurrent enroll-*

ment in MTT 221 and MANU 101 or 102. Theory of advanced milling machine processes with emphasis on indexing, boring, measuring, precision machining, grinding techniques, and metallurgy. (CSU)

221 Advanced Machine Tool Practice for the Mill (1.5) *Nine lab hours per week for eight weeks plus one lab hour per week by arrangement. Corequisite: concurrent enrollment in MTT 220.* Advanced milling machine set-ups, grinding techniques, including indexing, timing measurement, coordinate calculations and other related processes. (Lab supplies required.) (CSU)

641 Cooperative Education (1-4) (See first page of Description of Courses section.) (CSU)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

701 Applied CNC Mathematics (3) *Three lecture hours per week plus one lab hour per week by arrangement. Prerequisite: basic machine tool training or equivalent industrial experience. Recommended Preparation: three units of MATH 811 or equivalent skill level.* Mathematics focusing on skills needed for programming CNC machine tools. Includes algebra, geometry, trigonometry and some analytic geometry. Emphasizes using math to solve the practical problems faced in the work world of a computer numerical control programmer/machinist. (CSU)

702 Introduction to Numerical-Control Programming (3) *Six lecture hours per week for eight weeks plus one lab hour per week by arrangement. Prerequisite: MTT 701.* Designed for experienced machinists or advanced technical students. Continuation of MTT 701. Basic concepts in programming machine tools. Covers cutter path (points of transition), motion commands, set ups, miscellaneous functions, canned cycles, program input, sub routines, program editing and debugging. (CSU)

703 Introduction to Computer-Assisted Programming (3) *Six lecture hours per week for eight weeks plus one lab hour per week by arrangement. Prerequisite: MTT 702.* Instruction in Computer Aided Machining (CAM). Basic instruction in the use of software designed to help in programming CNC tools. Instruction also in the use of DOS, computer operation, program

planning, use of basic word processors, and computer peripherals. Use of Smart Cam is the main source of CAM instruction with additional computer aids included. (CSU)

704 Advanced Computer-Control Programming for Production (3) *Six lecture hours per week for eight weeks plus one lab hour per week by arrangement. Prerequisite: MTT 703.* Combines the full use of all programming methods with job planning, machine operation, and set-ups. Emphasizes problem solving and operational sequence along with program management at the machine tool. Students will be responsible for developing the complete sequence of processes from planning to completed project. (CSU)

750 Machine Tool Theory and Practice I (3) *Two lecture and four lab hours per week plus two lab hours per week by arrangement. Recommended Preparation: completion of or concurrent enrollment in MANU 101 or MTT 701.* Instruction in basic machine tool procedures. This course is equivalent to MTT 200. Designed for the serious machine technology student. Instruction in the use, operation, set up of conventional machine tools. Topics covered include lathes, mills, grinders, tool geometry, physics of metal removal, measurement, and job planning. (CSU)

755 Machine Tool Theory and Practice II (2) *One lecture hour and three lab hours per week. Prerequisite: MTT 750.* Intermediate studies in machine tool. Allows skill development in individual areas of interest: tool and cutter grinding, E.D.M., tool design, numerical-control programming, thread cutting, and others. (Lab supplies required.) (CSU)

760 Machine Tool Theory and Practice III (2) *One lecture hour and three lab hours per week. Prerequisite: MTT 755.* Advanced studies in machine tool. Allows skill development in individual areas of interest: tool and cutter grinding, E.D.M., tool design, numerical-control programming, thread cutting, and others. (Lab supplies required.) (CSU)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Management

100 Introduction to Business Management (3) *Three lecture hours per week. Recommended Preparation: eligibility for*

ENGL 800. Study of the principal functions of modern management, including planning, organizing, staffing, controlling, and decision-making. (CSU)

105 Financial Management (3) *Three lecture hours per week. Prerequisite: ACTG 121 or equivalent.* Survey of the concepts of financial management. (CSU)

110 Report Writing (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Principles of effective communication in a variety of business and industrial applications; emphasizes clarity, accuracy, and logic in the presentation of written, oral, and statistical materials. (CSU)

120 Management Communications (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Communication processes, both oral and written. Lectures, discussion, case studies, and oral presentations on such topics as the relationship between communication and organizational climate, perception and motivation, and the causes and patterns of miscommunication. (CSU)

215 Management of Human Resources (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Line supervision and personnel function in industry: selection and placement; wage and salary procedures; training and evaluation. (CSU)

220 Organizational Behavior (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Individual motivation, interpersonal communication, organizational influence, group dynamics, and decision-making in the organization; the relationship between culture, structure, and technology; leadership and the managing of organization conflict. (CSU)

235 Techniques of Supervision (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Role of the supervisor: understanding and motivating employees; leadership, communications, problem solving, and decision-making; employee training, performance evaluation, and labor relations; supervising different types of workers; delegation; improving work methods; reducing costs; planning and managing time. (CSU)

641 Cooperative Education (1-4) (See first page of Description of Courses section.) (CSU)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Manufacturing and Industrial Technology

100 Science for Technology (3) *Three lecture hours per week. Recommended Preparation: one semester of high school algebra.* Study of applied physics phenomena as related to simple devices, including forces, stress, motion acceleration, velocity, friction, energy, and basic thermodynamics. (CSU)

101 Applied Technical Mathematics I (3) *Three lecture hours per week. Prerequisites: appropriate skill level as measured by a satisfactory score on Math Placement Test One in combination with previous math coursework. Students who have earned three units of credit in MATH 811 at one of the SMCCCD colleges (MATH 810 at Skyline College) need not take the Math Placement Test.* Required of all Machine Tool Technology, Drafting, and Welding Technology students. Use of elementary algebra and applied geometry in the solution of technical problems. (CSU)

102 Advanced Applied Technical Mathematics (3) *Three lecture hours per week. Prerequisites: MANU 101.* Continuation of MANU 101. Application of more advanced techniques in technical mathematics. Includes instruction in geometry and trigonometry problem analyses, especially as applied to programming computer numerical-control machines. (CSU)

120 Industrial Materials and Processes (3) *Three lecture hours per week.* The study of metals common to industry and related industrial manufacturing processes. Includes the removing, shaping, and joining of metals as well as the processing of plastics, rubber, glass, and some exotic materials currently used in local industries. (CSU)

641 Cooperative Education (1-4) (See first page of Description of Courses section.) (CSU)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Mathematics

(Also see *Business 115, 810*)

The normal sequence of mathematics courses at CSM is 110, 115, 120, 130, 222, 251, 252, 253, 275. A student who qualifies for a particular mathematics course is eligible for any course lower in sequence. If the student has not taken a mathematics course during the previous two years, it is strongly recommended that the student enroll in a course below the one for which he or she would normally be eligible.

Unless otherwise indicated, a grade of C or higher is required for all prerequisite courses.

Extra supplies may be required in all Mathematics classes except MATH 811 and 812.

110 Elementary Algebra (5) *Day: five lecture hours per week; evening: six lecture hours per week. Prerequisite: appropriate skill level as measured by a satisfactory score on Math Placement Test One in combination with previous math coursework. Students who have earned three units of credit in MATH 811 at one of the SMCCCD colleges (MATH 810 at Skyline College) need not take the Math Placement Test. Study of elementary algebra through quadratic equations.*

111 Elementary Algebra I (FIRST HALF) (3) *Three lecture hours per week. Prerequisite: appropriate skill level as measured by a satisfactory score on Math Placement Test One in combination with previous math coursework. Students who have earned three units of credit in MATH 811 at one of the SMCCCD colleges (MATH 810 at Skyline College) need not take the Math Placement Test. Covers the first half of the semester's work of MATH 110. MATH 111-112 provides a two-semester study of MATH 110, a study of elementary algebra through quadratic equations.*

112 Elementary Algebra II (SECOND HALF) (3) *Three lecture hours per week. Prerequisite: MATH 111. Covers the second half of the semester's work of MATH 110.*

115 Geometry (5) *Day: five lecture hours per week; evening: six lecture hours per week.*

Prerequisite: MATH 110 or 112 at one of the SMCCCD colleges OR equivalent skill level (as measured by a satisfactory score on Math Placement Test Two in combination with a course equivalent to MATH 110 or 112). Study of the properties of plane and solid figures, using formal logic and the real number system. Includes some non-Euclidean, projective, and topological elements.

120 Intermediate Algebra (5) *Day: five lecture hours per week; evening: six lecture hours per week. Prerequisite: MATH 110 or 112 at one of the SMCCCD colleges OR equivalent skill level (as measured by a satisfactory score on Math Placement Test Two in combination with a course equivalent to MATH 110 or 112). Recommended Preparation: MATH 115 OR one year of high school geometry. A comprehensive review of elementary algebra with certain topics studied in greater depth. Extension of fundamental algebraic concepts and operations, equations in two variables, graphs, systems of equations, exponential and logarithmic functions, sequences, and series.*

122 Intermediate Algebra I (FIRST HALF) (3) *Three lecture hours per week. Prerequisite: MATH 110 or 112 at one of the SMCCCD colleges OR equivalent skill level (as measured by a satisfactory score on Math Placement Test Two in combination with a course equivalent to MATH 110 or 112). Recommended Preparation: MATH 115 OR one year of high school geometry. Covers the first half of the semester's work of MATH 120. MATH 122-123 provides a two-semester study of the material in MATH 120, a comprehensive review of elementary algebra with certain topics studied in greater depth.*

123 Intermediate Algebra II (SECOND HALF) (3) *Three lecture hours per week. Prerequisite: MATH 122. Covers the second half of the semester's work of MATH 120.*

125 Elementary Finite Mathematics (3) *Three lecture hours per week. Prerequisite: MATH 120 or 123 at one of the SMCCCD colleges OR equivalent skill level (as measured by a satisfactory score on Math Placement Test Three in combination with a course equivalent to MATH 120 or 123). Introduction to finite mathematics. Includes systems of linear equations and inequalities, matrices, set theory, logic, combinatorial techniques, elementary probability, linear programming, and mathematics of finance. Places particular emphasis on applications. (CSU/UC) (CAN MATH 12)*

130 Analytic Trigonometry (3) *Three lecture hours per week. Prerequisites: MATH 115 and MATH 120 or 123 at one of the SMCCCD colleges OR equivalent skill level (as measured by a satisfactory score on Math Placement Test Three in combination with a course equivalent to MATH 115 and MATH 120 or 123). Trigonometric functions of real numbers and angles, their graphs and periodicity; reduction formulas; function of multiple angles; identities and equations; radian measure; inverse functions; and solution of triangles. (CSU) (CAN MATH 8)*

200 Elementary Probability and Statistics (4) *Day: four lecture hours per week; evening: five lecture hours per week. Prerequisite: MATH 120 or 123 at one of the SMCCCD colleges OR equivalent skill level (as measured by a satisfactory score on Math Placement Test Three in combination with a course equivalent to MATH 120 or 123). Representation of data, use and misuse of statistics, measures of central tendency and dispersion, probability, sampling distributions, statistical inference, regression and correlation, contingency tables, and nonparametric methods. (CSU/UC*) (CAN STAT 2)*

222 Precalculus (5) *Day: five lecture hours per week; evening: six lecture hours per week. Prerequisite: MATH 130 at one of the SMCCCD colleges OR equivalent skill level (as measured by a satisfactory score on Math Placement Test Three in combination with a course equivalent to MATH 130). Study of more advanced algebra including the theory of equations, complex numbers, logarithmic and exponential functions, matrices, determinant function, binomial theorem, sequences, and mathematical induction; review of trigonometry; topics of analytic geometry. (CSU/UC*) (CAN MATH 16)*

231 Symbolic Logic and Mathematical Proof (1) *(Credit/No Credit or letter grade option.) Two lecture hours per week for eight weeks. Prerequisite: MATH 130 at one of the SMCCCD colleges OR equivalent skill level (as measured by a satisfactory score on Math Placement Test Three in combination with a course equivalent to MATH 130). Strongly recommended for students enrolled in or planning to take MATH 251 and math courses with numbers higher than 251. Propositions, arguments and validity, truth-functional equivalence, axiomatic systems, quantifiers, direct and indirect proof, and proof strategy. (CSU)*

241 Applied Calculus I (5) *Day: five lecture hours per week; evening: six lecture hours per week. Prerequisites: MATH 120 or 123 at one of the SMCCCD colleges OR equivalent skill level (as measured by a satisfactory score on Math Placement Test Three in combination with a course equivalent to MATH 120 or 123). Recommended for Business Majors: MATH 200.* Selected topics from analytic geometry, plus basic techniques of differential and integral calculus. (This sequence may not be substituted for the MATH 251 sequence for mathematics, physics or engineering majors.) (CSU/UC*) (CAN MATH 30)

242 Applied Calculus II (3) *Three lecture hours per week. Prerequisites: MATH 130 and 241.* Further work in differentiation and integration, trigonometric functions, calculus of functions of several variables, and selected topics from differential equations. (CSU/UC*) (CAN MATH 32)

251 Calculus with Analytic Geometry I (5) *Day: five lecture hours per week; evening: six lecture hours per week. Prerequisites: completion of Precalculus/College Algebra at one of the SMCCCD colleges OR equivalent skill level (as measured by a satisfactory score on Math Placement Test Four in combination with a course equivalent to Precalculus/College Algebra).* Study of limits, continuity, the derivative, applications of the derivative, and the definite integral. (CSU/UC*) (MATH 251, 252, and 253 = CAN MATH SEQ C)

252 Calculus with Analytic Geometry II (5) *Day: five lecture hours per week; evening: six lecture hours per week. Prerequisite: MATH 251.* Study of the antiderivative, techniques of integration, applications of the definite integral, exponential and logarithmic functions, parametric equations, polar coordinates, conic sections, and vectors. (CSU/UC*) (MATH 251, 252, and 253 = CAN MATH SEQ C)

253 Calculus with Analytic Geometry III (5) *Day: five lecture hours per week; evening: six lecture hours per week. Prerequisite: MATH 252.* Study of Taylor polynomials and Taylor's formula, infinite series, the calculus of functions of several independent variables, partial derivatives, multiple integration, and vector calculus to include Green's theorem, Stokes' theorem, and the divergence theorem. (CSU/UC*) (MATH 251, 252, and 253 = CAN MATH SEQ C)

268 Discrete Mathematics (4) *Day: four lecture hours per week; evening: five lecture hours per week. Prerequisite: MATH 251.* Topics in discrete mathematics with particular emphasis on applications to computer science. Includes logic, sets, Boolean algebra, switching circuits, recursion, induction, graphs, trees, counting, and combinatorics. (CSU/UC)

270 Linear Algebra (3) *Three lecture hours per week. Prerequisite: MATH 252.* Vectors and matrices applied to linear equations and linear transformations; real and inner product spaces. (CSU/UC) (CAN MATH 26)

275 Ordinary Differential Equations (3) *Three lecture hours per week. Prerequisite: MATH 253. With permission of the instructor, may be taken concurrently with MATH 253.* Differential equations of first, second, and higher order; simultaneous, linear and homogeneous equations; solutions by power series; numerical methods, Fourier series, Laplace transforms, and applications. (CSU/UC) (CAN MATH 24)

680 - 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

811 Arithmetic Review (1-3) (*Credit/No Credit grading.*) (*Open entry/open exit*) *Three hours per week of individualized instruction.* Basic arithmetic facts and operations of whole numbers, fractions, and decimals with applications. (Units do not apply toward AA/AS degree.)

812 Elementary Algebra Review (1) (*Credit/No Credit grading.*) (*Open entry/open exit*) *Three hours per week of individualized instruction. Prerequisite: MATH 110 or 111/112.* A review of elementary algebra. (Units do not apply toward AA/AS degree.)

880 - 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Medical Assisting

100 Introduction to Medical Assisting (3) *Three lecture hours per week.* Duties and responsibilities of a medical assistant in a physician's office, clinic, hospital, or other medical facility. Emphasizes desirable personality traits and human relationships as well as medical ethics, specialties in the medical field, and office maintenance.



CSM's Mary Meta Lazarus Child Care Center.

110 Basic Medical Terminology (3) *Three lecture hours per week. Recommended Preparation: eligibility for English 800 or equivalent skill level.* Development of a medical vocabulary through the study of the principles of word construction and word analysis, with emphasis on spelling and pronunciation. Medical abbreviations and symbols. (CSU)

115 Medical Word Processing (3) *Three lecture hours per week plus two lab hours per week by arrangement. Prerequisite: BUS 305 or equivalent skill level.* Training in production typing of medical letters, reports, and forms using the microcomputer. (CSU)

120 Clinical Procedures I (4) *Three lecture and three lab hours per week. Prerequisites: BIOL 130 and MEDA 110.* Examination room techniques; asepsis and sterilization procedures; laboratory procedures and techniques of specimen collection; electrocardiograms; and injections and venipuncture. (Extra supplies may be required.)

121 Clinical Procedures II (4) *Three lecture and three lab hours per week. Prerequisite: MEDA 120 with a grade of C or higher.* Administering medications; eye and ear lavage; electroencephalograms; removal of sutures and staples; bandaging and dressings; and other examination and clinical procedures. (Extra supplies may be required.)

140 Medical Transcription: Basic (3) *Three lecture hours per week plus two lab hours per week by arrangement. Prerequisites: MEDA 110 and 115. Recommended Preparation: BIOL 130.* Machine transcription of medical reports. (CSU)

141 Medical Transcription: Advanced (3) *Three lecture hours per week plus two lab hours per week by arrangement. Prerequisites: MEDA 140. Recommended Preparation: MEDA 190 and BIOL 130.* Intensive transcription of hospital-type medical reports, including history and physical examinations, surgeries, discharge summaries, and radiologic and nuclear medicine reports.

150 Medical Office Procedures (3) *Three lecture hours per week plus two lab hours per week by arrangement. Prerequisites: MEDA 100, 110, 115, 140, and 160.* Fundamental office procedures applied to the medical field. Decision-making, setting priorities, finding information, coping with interruptions, and producing under pressure in medical office simulations.

160 Medical Insurance Procedures (3) *Three lecture hours per week plus two lab hours per week by arrangement. Prerequisites: MEDA 115.* Covers Blue Cross, Blue Shield, Medicare, Medi-Cal, Worker's Compensation, and other insurance programs. Coding resources used in claims preparation. Billing and bookkeeping methods using the microcomputer.

161 ICD (International Classification of Diseases)-9-CM (Clinical Modification) Beginning Coding (1) *(Credit/No Credit or letter grade option.) Four lectures hours per week for four weeks.* Development of nomenclature and classification systems of diseases. Basic coding principles of diseases and symptoms according to ICD-9-CM with emphasis on the coding of medical records. Use of indexes, sequencing of code numbers, and preparation of documents. (To increase competency, may be repeated one time.)

162 ICD (International Classification of Diseases)-9-CM (Clinical Modification) Intermediate Coding (1) *(Credit/No Credit or letter grade option.) Four lecture hours per week for four weeks. Prerequisite: MEDA 161.* Intermediate principles and philosophy of coding logic according to ICD-9-CM. Emphasizes the use of UHDDS, source documents, multiple coding, sequencing, V codes, tables, neoplasms, and mental disorders.

163 ICD (International Classification of Diseases)-9-CM (Clinical Modification) Advanced Coding (1) *(Credit/No Credit or letter grade option.) Four lecture hours per week for four weeks. Prerequisite: MEDA 162.* Advanced principles and philosophy of coding logic according to ICD-9-

CM. Emphasizes diseases by body systems, complications, injuries, and adverse effects of drugs.

164 CPT (Current Procedural Terminology) Beginning Coding (1) *(Credit/No Credit or letter grade option.) Four lecture hours per week for four weeks.* Basic coding principles of medical procedures according to CPT and an introduction to ICD-9-CM procedural coding. Use of CPT, modifiers, appendices, and preparation of documents. (To increase competency, may be taken twice for a maximum of 2 units.)

165 CPT (Current Procedural Terminology) Intermediate Coding (1) *(Credit/No Credit or letter grade option.) Four lecture hours per week for four weeks. Prerequisite: MEDA 164.* Intermediate principles and philosophy of coding logic according to CPT. Emphasizes the understanding of terms and process.

166 CPT (Current Procedural Terminology) Advanced Coding (1) *(Credit/No Credit or letter grade option.) Four lecture hours per week for four weeks. Prerequisite: MEDA 165.* Advanced principles and philosophy of coding logic according to CPT. Emphasizes the understanding of terms and process.

190 Introduction to Pharmacology (3) *Three lecture hours per week.* Designed for medical assistants, medical transcribers, and other allied health personnel. Includes recognition and identification of commonly used drugs; classification of drugs according to action; modes of administration of drugs; and care and storage of drugs according to regulations of the Food and Drug Administration. (CSU)

641 Cooperative Education (1-4) (See first page of Description of Courses section.) (CSU)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Meteorology

100 Elementary Meteorology (3) *Three lecture hours per week.* Basic course in descriptive meteorology. Includes the atmosphere's structure, the earth's heat budget, cloud forms and precipitation, pressure systems and wind, and air mass

and frontal weather. Leads to a better understanding of the obvious and subtle ways of the weather. (CSU/UC)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Military Science

(Air Force ROTC classes held at UC Berkeley.)

1-2 U.S. Air Force and National Security; Growth and Development of Air Power (1-1) *One and one-half lecture hours per week.* Introductory survey. Examines current U.S. defense needs and the Air Force in terms of theory, function, mission, and organization. Traces historical evolution of air power. Emphasizes the impact of changing technology and the contribution of specific historical figures. (CSU/UC)

(Army ROTC classes held at San Jose State University.)

1a-1b Fundamentals of Leadership; the U.S. Defense Establishment (2-2) *One lecture hour and one leadership lab bi-weekly.* First year basic course. Provides orientation concerning organization, management, and leadership fundamentals in formal organizations. Exams role of the citizen-soldier, foundations of national power, and causes of conflict. Includes oral reports and written requirements to improve communicative abilities. (CSU/UC*)

12a-12b Map and Aerial Photograph Reading; Applied Leadership and Management (2-2) *One lecture hour and one leadership lab bi-weekly. Prerequisite: Military Science 1a-1b.* Second year basic course. Functions, duties, and responsibilities of junior leaders; mission, organization, and composition of the basic military team; study of the basic principles of map and aerial photograph reading to include military geography, map symbols, military grid systems, resection techniques, and use of compass. Instruction in military operations and basic tactics; continuing development of leadership through practical exercises. (CSU)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

Music

100 Fundamentals of Music (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Designed for students who wish to learn how to read music and perform it at sight. Recommended for students with limited musical background who wish to begin the formal study of music theory. Also recommended for education majors. (CSU/UC)

101 Musicianship I (3) *Three lecture hours per week. Prerequisite: MUS. 100 or equivalent. Corequisite: concurrent enrollment in MUS. 131. Recommended Preparation: eligibility for ENGL 800.* Study of notations, keys, and intervals. Performance at sight of melodic and rhythmic examples. Dictation of melodic, harmonic, and rhythmic examples. Fundamentals of keyboard harmony. (CSU/UC)

102 Musicianship II (3) *Three lecture hours per week. Prerequisite: MUS. 101 or equivalent. Corequisite: concurrent enrollment in MUS. 132. Recommended Preparation: eligibility for ENGL 800.* Continuation and advanced study of topics introduced in Music 101. (Nine units of Musicianship are recommended for students majoring in Music.) (CSU/UC)

103 Musicianship III (3) *Three lecture hours per week. Prerequisite: MUS. 102 or equivalent. Corequisite: concurrent enrollment in MUS. 133.* Continuation of Music 101-102. (CSU/UC)

104 Musicianship IV (3) *Three lecture hours per week. Prerequisite: MUS. 103. Corequisite: concurrent enrollment in MUS. 134.* Continuation of Music 103. (CSU/UC)

131 Harmony I (3) *Three lecture hours per week. Prerequisite: MUS. 100 or equivalent. Corequisite: concurrent enrollment in MUS. 101. Recommended Preparation: eligibility for ENGL 800.* Principles of scale, mode, and interval construction; triads in first, second, and third inversions; melodic and harmonic rhythm; root progressions and voice leading; seventh chords and secondary dominants; introduction to common harmonic practice through exercises, analysis, and creative work. (CSU/UC)

132 Harmony II (3) *Three lecture hours per week. Prerequisite: MUS. 131. Corequisite: concurrent enrollment in MUS. 102.* Continuation and advanced study of topics introduced in MUS. 131. (CSU/UC)

133 Harmony III (3) *Three lecture hours per week. Prerequisite: MUS. 132. Corequisite: concurrent enrollment in MUS. 103.* Continuation of the study of tonal and formal procedures; contextual investigations of diminished seventh, Neapolitan sixth, and augmented sixth chords; tonicization, modulation, and sequence; introduction to Impressionism and to 20th Century melody, harmony, and form. (CSU/UC)

134 Harmony IV (3) *Three lecture hours per week. Prerequisite: MUS. 133. Corequisite: concurrent enrollment in MUS. 104.* Continuation and advanced study of topics introduced in Music 133. (CSU/UC)

170 Improvisation (3) *Three lecture hours per week. Prerequisite: MUS. 131 or equivalent.* Study of improvisatory styles and techniques and the historical perspective of the practices; rhythmic, harmonic, and melodic foundations; and improvisatory ensemble. (To increase competency, may be taken four times for a maximum of 12 units, after which students may petition to audit. See Index: "Audit Policy.") (CSU/UC*)

202 Music Listening and Enjoyment (3) *Three lecture hours per week plus selected listening. No musical experience required. Recommended Preparation: eligibility for ENGL 800.* Survey of the music of Western civilization. Enhances enjoyment and appreciation of the world's great music and develops an understanding of today's concert music in a historical context. (CSU/UC)

240 Music of the Americas (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Survey of the musical styles of various American cultures, including Native American forms and expressions. Examines the contributions of African, Latin, and European influences to the musical heritage of the United States and explores jazz, folk, popular and classical traditions. (CSU/UC)

250 World Music (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* A course in comparative music styles of various cultures of the world. Each semester will explore one or more of the musical styles (popular, folk or classical) of Western Hemisphere, European, Asian and African cultures. Wherever possible, guest performers will present, and an opportunity shall be afforded to attend live performances. (CSU/UC)

275 History of Jazz (3) *Three lecture hours per week. Recommended Preparation:*

eligibility for ENGL 800. Study of jazz since 1900, with emphasis on instrumental styles; the development of jazz since 1940 and contemporary trends. Attendance required at four jazz performances. (CSU/UC)

290 Introduction to MIDI (Musical Instrument Digital Interface) Music (3) *Two lecture and three lab hours per week.* Introductory course in the use and implementation of MIDI (Musical Instrument Digital Interface) musical instruments, including interfacing with computers and MIDI software. Ability to read music is desirable but not essential. (CSU)

291 MIDI (Musical Instrument Digital Interface) Hardware and Software Sequencing (2) *(Credit/No Credit or letter grade option) Two lecture and two lab hours per week. Prerequisite: MUS. 290.* Advanced MIDI applications, focusing on the uses of MIDI in music composition, music production, and multi-media. MIDI applications include MIDI sequencing programs for both the Macintosh and IBM platforms and music printing software. (To increase competency, may be taken twice for a total of 4 units.) (CSU)

MUS. 293 Audio for Visual Media (2.5) *(Credit/No Credit or letter grade option.) Two lecture and two lab hours per week. Prerequisite: MUS. 291 or equivalent.* Production and synchronization of music, sound effects, and voice-overs for film and video. Study and use of various time codes, including SMPTE and MTC. Arranging, orchestrating, and composing for visuals using MIDI instruments, computer-based sequencing, and multi-track tape recording techniques.

301 Piano I (1) *Three lab hours plus two individual practice hours per week.* Study in the techniques of piano playing. Individual attention, assignments, and performance in a class situation. (CSU/UC*)

302 Piano II (1) *Three lab hours plus two individual practice hours per week. Prerequisite: MUS. 301 or equivalent.* Continuation of study in the techniques of piano playing. Individual attention, assignments, and performance in a class situation. (CSU/UC*)

303 Piano III (1) *Three lab hours plus two individual practice hours per week. Prerequisite: MUS. 302 or equivalent.* Continuation of study in the techniques of piano playing. Individual attention, assignments, and performance in a class situation. (CSU/UC*)

304 Piano IV (1) *Three lab hours plus two individual practice hours per week. Prerequisite: MUS. 303 or equivalent.* Continuation of study in the techniques of piano playing. Individual attention, assignments, and performance in a class situation. (To increase competency, may be taken four times for a maximum of 4 units, after which students may petition to audit. See Index: "Audit Policy.") (CSU/UC*)

320 Study of Brass Instruments (1) *Three lab hours plus two individual practice hours per week.* Techniques of playing the instrument of the student's choice, with individual and class instruction. (To increase competency, may be taken four times for a maximum of 4 units.) (CSU/UC*)

371 Guitar I (1) *Three lab hours plus two individual practice hours per week.* Techniques of guitar performance and reading music to enable students to play accompaniments to compositions written for the guitar. Students must supply their own instruments. (CSU/UC*)

372 Guitar II (1) *Three lab hours plus two individual practice hours per week. Prerequisite: MUS. 371.* Continuation of Music 371 with emphasis on solo performances. Students must supply their own instruments. (CSU/UC*)

373 Guitar III (1) *Three lab hours plus two individual practice hours per week. Prerequisite: MUS. 372.* Continuation of MUS. 372 with emphasis on solo performances. Students must supply their own instruments. (CSU/UC*)

374 Guitar IV (1) *Three lab hours plus two individual practice hours per week. Prerequisite: MUS. 373.* Continuation of Music 373 with emphasis on solo performances. Students must supply their own instruments. (To increase competency, may be taken four times for a maximum of 4 units, after which students may petition to audit. See Index: "Audit Policy.") (CSU/UC*)

401 Voice I (1) *Three lab hours plus two individual practice hours per week.* Elementary vocal problems analyzed and corrected through exercises and songs. (CSU/UC*)

402 Voice II (1) *Three lab hours plus two individual practice hours per week. Prerequisite: MUS. 401 or equivalent.* Intermediate songs and recital performance as ability merits. (CSU/UC*)

403 Voice III (1) *Three lab hours plus two individual practice hours per week. Prerequisite: MUS. 402 or equivalent.* Advanced

songs and recital performance as ability merits. (CSU/UC*)

404 Voice IV (1) *Three lab hours plus two individual practice hours per week. Prerequisite: MUS. 403 or equivalent.* Advanced songs and recital performance as ability merits. (To increase competency, may be taken four times for a maximum of 4 units, after which students may petition to audit. See Index: "Audit Policy.") (CSU/UC*)

430 Symphonic Band (1) *(Credit/No Credit or letter grade option.) Three lecture-critique hours per week. Prerequisite: MUS. 320 or the equivalent.* Study and performance of music for concert band. Performance required (band does not perform at athletic events). (To increase competency, may be taken four times for a maximum of 4 units, after which students may petition to audit. See Index: "Audit Policy.") (CSU/UC*)

451 Jazz Workshop (1) *(Credit/No Credit or letter grade option.) Three lecture-critique hours per week.* Workshop in jazz interpretation and styles. Ensemble experience from "blues" to present-day jazz. (To increase competency, may be taken four times for a maximum of 4 units.) (CSU/UC*)

452 Repertory Jazz Band (1) *Three lecture-critique hours per week. Prerequisite: demonstration of proficiency in advanced reading and interpretation of jazz styles.* Evening jazz ensemble for the experienced musician. Emphasizes advanced improvisational techniques. Performance required. (To increase competency, may be taken four times for a maximum of 4 units, after which students may petition to audit. See Index: "Audit Policy.") (CSU/UC*)

453 Jazz Band (2) *Five lecture-critique hours per week. Prerequisites: MUS. 101 and 320 or equivalent.* All phases of jazz performance, starting with beginner ensemble experience. Performance required. (To increase competency, may be taken four times for a maximum of 8 units, after which students may petition to audit. See Index: "Audit Policy.") (CSU/UC*)

470 Choir (1) *Three lecture-critique hours per week. Prerequisites: MUS. 402 or equivalent; demonstration of proficiency.* Study and performance of choral literature for accompanied and unaccompanied choir. Performance required. (To increase competency, may be taken four times for a maximum of 4 units, after which students may petition to audit. See Index: "Audit Policy.") (CSU/UC*)

490 Masterworks Chorale (1) *(Credit/No Credit grading.) Three lecture-critique hours per week plus two hours by arrangement. Prerequisite: MUS. 470 or equivalent; demonstration of proficiency.* Study and performance of representative choral literature appropriate for a large chorus. Introduces different works each semester, providing a succession of new curriculum. (To increase competency, may be taken four times for a maximum of 4 units, after which students may petition to audit. See Index: "Audit Policy.") (CSU/UC*)

MUS. 800 Computer-Assisted Instruction in Music (.5) *Total of twenty-four lab hours per semester.* Designed primarily for students enrolled in MUS. 100, 101, 102, 103, 104, 131, 132, 133, or 134 to improve their skills in music theory and musicianship through Computer-Assisted Instruction (CAI). No previous computer experience required; instructor is available for assistance/consultation. (To increase competency, may be taken four times for a maximum of 2 units.)

641 Cooperative Education (1-4) (See first page of Description of Courses section.) (CSU)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Nursing

Registered Nursing

The courses described are open only to those students accepted in the Associate Degree Nursing Program (see Index: Nursing, A. S. Degree for admission requirements). A grade of C or higher is necessary for progression in the sequence. Upon graduation, the candidate receives an Associate in Science degree and is eligible to take the California Board of Registered Nursing Licensing examination. Satisfactory completion of NURS 211, 212, 221, and 222 will satisfy the 2 units of Health Science General Education requirement for an A.A./A.S. degree.

Unless otherwise indicated, a grade of C or higher is required for all prerequisite courses.

211 Introduction to Nursing (4.5) *Four lecture and fifteen lab hours per week for eight to nine weeks. Prerequisite: Admission to the A.S. Degree Nursing Program.* Human health needs and the principles, facts, concepts and skills basic to nursing care. Supervised learning experiences corresponding with classroom instruction in off-campus health care facilities. (Fall only.) (CSU)

212 Concepts of Homeostasis in Nursing (4.5) *Four lecture and fifteen lab hours per week for eight to nine weeks. Prerequisite: NURS 211.* Continuation of the study of human health needs and the principles, facts, concepts, and skills basic to nursing care using the nursing process to promote homeostasis. Supervised learning experiences corresponding with classroom instruction in off-campus health care facilities. (Fall only.) (CSU)

215 Nursing Skills Lab I (.5) (*Credit/No Credit grading.*) *One and one-half lab hours per week. Prerequisite: admission to the A.S. Degree Nursing Program. Corequisite: concurrent enrollment in NURS 211 and 212.* Provides for nursing skill development and competency testing for skills identified for concurrent nursing courses. (Fall only.)

221 Pediatric Nursing (4.5) *Five lecture and twelve lab hours per week for eight to nine weeks. Prerequisites: NURS 212; BIOL 260 or 266; PSYC 100; AND concurrent enrollment in or completion of PSYC 201.* Developmental levels and common health needs and problems from infancy to young adult. Supervised learning experiences corresponding with classroom instruction in off-campus health care facilities. (Spring only.) (CSU)

222 Maternity Nursing (4.5) *Five lecture and twelve lab hours per week for eight to nine weeks. Prerequisites: NURS 221.* Needs and problems of the family during the maternity cycle along with identifying needs and problems of male and female reproduction. Supervised learning experiences corresponding with classroom instruction in off-campus health care facilities. (Spring only.) (CSU)

225 Nursing Skills Lab II (.5) (*Credit/No Credit grading.*) *One and one-half lab hours per week. Prerequisite: NURS 212 or equivalent with a grade of C or higher. Corequisite: concurrent enrollment in NURS 221 and 222.* Provides for nursing skill development and competency testing

for skills identified for concurrent nursing courses. (Spring only.)

231 Psychiatric Nursing (5) *Five lecture and fifteen lab hours per week for eight to nine weeks. Prerequisite: NURS 222.* Effective and non-effective communication, equilibrium and disequilibrium in life styles and functioning in the adolescent to adult patient. Supervised learning experiences corresponding with classroom instruction in off-campus health care facilities. (Fall only.) (CSU)

232 Medical/Surgical Nursing (5) *Five lecture and fifteen lab hours per week for eight to nine weeks. Prerequisite: NURS 231.* Identification of more complex health needs and problems in the adult and special needs of the surgical patient. Supervised learning experiences corresponding with classroom instruction in off-campus health care facilities. (Fall only.) (CSU)

235 Nursing Skills Lab III (.5) (*Credit/No Credit grading.*) *One and one-half lab hours per week. Prerequisite: NURS 222 or equivalent. Corequisite: concurrent enrollment in NURS 231 and 232.* Provides for nursing skill development and competency testing for skills identified for concurrent nursing courses. (Fall only.)

241 Advanced Medical/Surgical Nursing (5) *Five lecture and fifteen lab hours per week for eight to nine weeks. Prerequisite: NURS 232.* Addressing the overt and covert needs of adult patients undergoing threats to homeostasis in a variety of complex situations. Supervised learning experiences corresponding with classroom instruction in off-campus health care facilities. (Spring only.) (CSU)

242 Leadership/Management in Nursing (5) *Five lecture and fifteen lab hours per week for eight to nine weeks. Prerequisite: NURS 241.* Transition to the graduate role. Student initiate the nursing process with emphasis on the determination of priorities, on decision-making responsibilities, and on personal accountability. Supervised learning experiences corresponding with classroom instruction in off-campus health care facilities. (Spring only.) (CSU)

245 Nursing Skills Lab IV (.5) (*Credit/No Credit grading.*) *One and one-half lab hours per week. Prerequisite: NURS 232 or equivalent. Corequisite: concurrent enrollment in NURS 241 and 242.* Provides for nursing skill development and competency testing for skills identified for concurrent nursing courses. (Spring only.)

641 Cooperative Education (1-4) (See first page of Description of Courses section.) (CSU)

666 Career Exploration in Nursing (1) (*Credit/No Credit grading.*) *One lecture hour per week.* Designed for potential nursing majors and non-nursing majors. Provides an overview of nursing roles, educational requirements, responsibilities, job opportunities, and settings for nursing practice. (CSU)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

811 Review: Introduction to Nursing (2) (*Credit/No Credit grading.*) *Four lecture hours per week for eight to nine weeks. Prerequisite: NURS 242 or equivalent.* Review of principles, facts, concepts and skills basic to nursing care. (Fall only.)

812 Review: Concepts of Homeostasis in Nursing (2) (*Credit/No Credit grading.*) *Four lecture hours per week for eight to nine weeks. Prerequisite: NURS 242 or equivalent.* Review of principles, facts, concepts, and skills basic to nursing care. Human needs are identified and nursing process is used to promote homeostasis. (Fall only.)

821 Review: Pediatric Nursing (2.5) (*Credit/No Credit grading.*) *Five lecture hours per week for eight to nine weeks. Prerequisite: NURS 242 or equivalent.* Review of developmental levels and common health needs and problems from infancy to young adult. (Spring only.)

822 Review: Maternity Nursing (2.5) (*Credit/No Credit grading.*) *Five lecture hours per week for eight to nine weeks. Prerequisite: NURS 242 or equivalent.* Review of needs and problems of the family during the maternity cycle along with identifying needs and problems of male and female reproduction. (Spring only.)

831 Review: Psychiatric Nursing (2.5) (*Credit/No Credit grading.*) *Five lecture hours per week for eight to nine weeks. Prerequisite: NURS 242 or equivalent.* Review of effective and non-effective communication, equilibrium and disequilibrium in life styles, and functioning in the adolescent to adult patient. (Fall only.)

832 Review: Medical/Surgical Nursing (2.5) (*Credit/No Credit grading.*) *Five lecture hours per week for eight to nine weeks.*

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Prerequisite: NURS 242 or equivalent.
Review of more complex health needs/problems in the adult. (Fall only.)

841 Review: Advanced Medical/Surgical Nursing (2.5) (*Credit/No Credit grading.*) *Five lecture hours per week for eight to nine weeks. Prerequisite: NURS 242 or equivalent.* Review of overt and covert needs of adult patients undergoing threats to homeostasis in a variety of complex situations. (Spring only.)

842 Review: Leadership/Management in Nursing (2.5) (*Credit/No Credit grading.*) *Five lecture hours per week for eight to nine weeks. Prerequisite: NURS 242 or equivalent.* Review of meeting overt and covert needs of adult patients undergoing threats to homeostasis in a variety of complex situations. The nursing process is used with emphasis on determination of priorities, decision making responsibilities, and personal accountability. (Spring only.)

845 Review: Registered Nurse Exam (.5) (*Credit/No Credit grading.*) *One-half hour lecture and one and one-half hours lab per week for eight weeks. Prerequisite: concurrent enrollment in NURS 241 or equivalent OR eligibility to take the State Board exam.* This course is designed to assist senior level nursing students to prepare for Nursing State Board examination through the use of a computer program and audio and video tapes which provide content review and test taking skills. (Spring only.)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Nutrition

(See Consumer Arts and Science)

Oceanography

Unless otherwise indicated, a grade of C or higher is required for all prerequisite courses.

100 Oceanography (3) *Two lecture hours and one recitation hour per week plus two field trips.* Introduction to marine geology, chemistry, and biology. Includes the hydrologic cycle and properties of sea water and marine organisms; currents, waves, tides, coastal processes, and ecology of the ocean; continental drift; and seafloor spreading. (CSU/UC)

101 Oceanography Laboratory/Field Study (1) *Three lab hours per week. Prerequisite: concurrent enrollment in or completion of OCEN 100.* Introductory exercises in ocean currents, sedimentation, marine life forms, materials of the oceanic crust and sea floor, physical and chemical properties of sea water, and plate tectonics. Field trips included. (CSU/UC)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Office Administration

(See Business)

Paleontology

110 General Paleontology (3) *Two lecture and two recitation hours per week plus two one-half day field trips.* Evolution of life through the past 3.5 billion years of earth history. Fossils as evidence of the history of life. Animals and plants related to modern and ancient environments. Methods of interpreting the fossil record. The impact of drifting continents on the extinctions and origins of major groups of organisms. (CSU/UC)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Philosophy

(Also see Humanities)

100 Introduction to Philosophy (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Introductory survey of philosophical questions about the nature of reality; the prospects for human knowledge; and moral, political, and religious issues. Intended to help students clarify their own thinking about such questions, through learning and discussing how

philosophers have dealt with them. (CSU/UC) (CAN PHIL 2)

160 History of Western Philosophy: Ancient to Medieval (3) (*Credit/No Credit or letter grade option.*) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* History of ancient philosophy, the early Greek philosophers through the medieval period. Special emphasis on the Pre-Socratics, Plato, Aristotle, Augustine, and Aquinas. Topics include philosophy and religion, myth, science, and society. (CSU/UC)

244 Contemporary Social and Moral Issues (3) (*Credit/No Credit or letter grade option.*) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Discussion and analysis of contemporary controversial issues in medical, business, and professional ethics, law enforcement, and politics. Issues include abortion, euthanasia, truth-telling in advertising, corporate responsibilities, capital punishment, victimless crimes, freedom of the press, the uses of war and terrorism as instruments of national policy, animal rights, and world hunger. (CSU/UC)

246 Ethics in America (3) (*Telecourse*) (*Credit/No Credit or letter grade option.*) *Recommended Preparation: eligibility for ENGL 800.* Examines contemporary ethical conflicts in journalism, government, medicine, law, business, and the criminal justice system. Provides a grounding in the language, concepts, and traditions of ethics. (CSU/UC) (CAN PHIL 4)

320 Asian Philosophy (3) (*Credit/No Credit or letter grade option.*) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Survey of ideas and issues that traditionally concern philosophic minds. Emphasizes doing philosophy as a means of understanding it. Critical evaluation of such philosophical topics as values and ethics, logic, political ideologies, human existence, science and religion, cosmology, and knowledge. (CSU/UC)

350 Joseph Campbell: Transformations of Myth through Time (3) (*Telecourse*) (*Credit/No Credit or letter grade option*) *Recommended Preparation: eligibility for ENGL 800 and the ability to comprehend the subject and to read and write sophisticated academic discourse about it in English.* Televised lectures by Joseph Campbell describing and explaining various religious myths. Provides a scientific con-

text for understanding, analyzing, and comparing the myths and Campbell's interpretation of them. Students make their own critical evaluation and use of material. (CSU)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Photography

(See Art)

Physical Education

The Physical Education Division offers a wide variety of physical activities that students can participate in according to individual interests and needs, activities that have carry-over value for the students' leisure time, now and in the future. Instruction is provided in progressive levels of competency, offering opportunities for specialization. A recommended preparation for all physical education courses is a recent physical examination.

Courses will normally be offered for the number of units specified in this catalog. However, units allowed for a given Physical Education class may be adjusted to conform with an increase or a decrease in the number of hours for which the class will be offered. Units are earned on the basis of 1 unit per three class hours per semester. Courses involving Varsity Athletics may not count for activity credit unless the number of units is at least one per semester. (See Index: "Physical Education Requirement.")

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Adapted (ADAP)

100 Adapted Aquatics (.5-1) (*Credit/No Credit grading.*) *One and one-half to three lab hours per week.* Offered primarily for students with physical limitations. Disability verification recommended. Students practice techniques to increase range of motion and strengthen weakened extremities

(CSU) Transferable to California State Universities, (UC) Transferable to University of California, (*) With limitations

through water-oriented exercises and swim instruction. (May be repeated according to results of individual testing.) (CSU/UC*)

110 Adapted General Conditioning (.5-1) (*Credit/No Credit grading.*) *One and one-half to three lab hours per week.* Offered primarily for students with physical limitations. Disability verification recommended. Prescription and implementation of adapted exercises for a number of limiting conditions, ranging from stroke injuries to orthopedic problems. (May be repeated according to results of individual testing.) (CSU/UC*)

140 Adapted Circuit Weight Training (.5-1) (*Credit/No Credit grading.*) *One and one-half to three lab hours per week.* Offered primarily for students with physical limitations. Disability verification recommended. Instruction in the use of fitness equipment; individualized training to develop muscular endurance using specific exercises in circuit training. (May be repeated according to results of individual testing.) (CSU/UC*)

Aquatics (AQUA)

105 Beginning/Intermediate Swimming (.5) *One and one-half lab hours per week.* *Prerequisite: demonstration of ability to swim one width of the shallow pool utilizing the front crawl.* Individualized instruction in the stroke mechanics of front and back crawl, elementary backstroke, sidestroke, breaststroke, and butterfly. Includes techniques of the grab and flip turns. (To increase competency, may be taken four times, after which students may petition to audit. See Index: "Audit Policy.") (CSU/UC*)

109 Intermediate Swimming and Beginning Water Polo (1) *Three lab hours per week.* *Prerequisite: ability to swim comfortably in deep water.* Instruction in the basic swimming strokes, water polo fundamentals, and intra-class competition. Progressive skill development in picking up the ball in water, passing, catching, shooting, dribbling. Introduction to basic strategies and water polo rules. (To increase competency, may be taken four times.) (CSU/UC*)

120 Aquatic Fitness (.5-1) *One and one-half to three lab hours per week.* *Prerequisite: demonstration of ability to swim the front crawl for 100 yards continuously.* Aerobic activity involving monitored heart rate. Individualized instruction in front-crawl stroke mechanics and turning techniques. (To increase competency, may be taken four times.) (CSU/UC*)

125 Swim for Fitness (.5-1) *One and one-half to three lab hours per week.* *Prerequisite: demonstration of ability to swim the front crawl for 50 yards continuously.*

Active participation in aerobic activity comprised predominantly of lap swimming. Includes sessions involving kicking and pulling. Emphasizes monitoring heart rate relative to acceptable training pulse rate. Instruction in the mechanics of the front crawl and turning techniques. (To increase competency, may be taken four times.) (CSU)

127 Swim for Conditioning (.5-1) *One and one-half to three lab hours per week.* *Prerequisite: ability to swim.* Endurance swimming for all swimmers at all levels of fitness. Interval training using all strokes. (To increase competency, may be taken four times.) (CSU/UC*)

Combative (COMB)

101 Beginning Self-Defense (.5) *One and one-half lab hours per week.* Philosophy and methods of self-defense. Basic kicks, blocks, punches, and escape techniques. Home, car, and outside security precautions. Rape prevention. (CSU/UC*)

104 Intermediate/Advanced Self-Defense (.5-1) (*Open entry/open exit.*) *One and one-half to three lab hours per week.* *Prerequisite: COMB 101 or demonstration of ability.* Advanced skills in self-defense for students working for red or black belt rank. Individual work in sparring, throws, and attack techniques. (To increase competency, may be taken three times, after which students may petition to audit. See Index: "Audit Policy.") (CSU/UC*)

Dance (DANC)

121 Contemporary Modern Dance (1) *Three lab hours per week.* Fundamentals of contemporary dance technique, body alignment, and basic movements. (To increase competency, may be taken four times.) (CSU/UC*)

131 Jazz Dance I (1) *Three lab hours per week.* Beginning techniques in jazz-stage, jazz movements, fast jazz, jazz rock, jazz blues, and various other jazz combinations. (CSU/UC*)

132 Jazz Dance II (1) *Three lab hours per week.* *Prerequisite: DANC 131 or equivalent.* Continuation of Dance 131 with more complex routines and refining of basic skills. (To increase competency, may be taken three times.) (CSU/UC*)

141 Beginning Ballet I (1) *Three lab hours per week.* Beginning study of ballet techniques and style, including barre, center floor, and dance variations. Explores modern ballet works. (CSU/UC*)

143 Intermediate Ballet II (1) *Three lab hours per week. Prerequisite: DANC 141.* Continuation of Dance 141, concentrating on barre, center floor, and dance variations. Explores classic ballet works. (To increase competency, may be taken three times.) (CSU/UC*)

148 Beginning Ballet and Modern Dance (.5) *One and one-half lab hours per week.* Movement skills; rhythmic structure of dance; qualities of movement; and special design and appreciation of dance. Emphasizes modern ballet and modern dance styles in the creation of individual compositions. (To increase competency, may be taken four times.) (CSU/UC*)

Fitness (FITN)

100 Adult Fitness (.5) *One and one-half lab hours per week.* Designed to re-acquaint the adult with exercise and to increase cardiovascular and physical fitness. Exercise for flexibility, strength, and agility; running for conditioning of the muscular, vascular, and respiratory systems. Emphasizes working at own pace. (To increase competency, may be taken four times, after which students may petition to audit. See Index: "Audit Policy.") (CSU/UC*)

114 Fitness for Life (.5-1) *One and a half to three lab hours per week. Recommended Preparation: approval of physician if there is any indication of condition that would prohibit or restrict the student from active participation.* Warm-up and cool-down calisthenics, stretching exercises, free-weight dumb bell circuit, and aerobics using exercycles, rowing machines, treadmill, stair-master and walking. Emphasizes establishing and monitoring an acceptable training-pulse rate. (CSU/UC*)

116 Body Conditioning (.5-1) *One and one-half to three lab hours per week.* Individual flexibility, agility, strength, aerobic fitness, and relaxation. (To increase competency, may be taken four times.) (CSU/UC*)

127 Aerobic Dance (.5-1) *One and one-half to three hours per week. Recommended Preparation: recent physical examination.* Dance and exercise to music to increase cardiovascular efficiency, flexibility, and coordination; strengthen heart muscle;

lower resting hear rate; and tone the body. (To increase competency, may be taken four times.) (CSU/UC*)

201 Beginning Weight Conditioning (.5-1) *One and one-half to three lab hours per week. Recommended Preparation: recent physical examination.* Designed to increase strength and flexibility through instruction in various lifts and exercises using free weights and/or weight machines. (CSU/UC*)

203 Intermediate Weight Conditioning (.5-1) *One and one-half to three lab hours per week. Prerequisite: FITN 201 or equivalent.* Progressive skills and weight development in various weight-conditioning exercises using free weights and/or weight machines; opportunities to specialize in different areas of the body; development of individual programs. (To increase competency, may be taken three times.) (CSU/UC*)

212 Circuit Weight Conditioning (.5-1) *One and one-half to three lab hours per week.* Use of UNIVERSAL weight-training equipment in a multi-station exercise circuit. Designed to develop strength and improve muscle tone and flexibility. Stretching exercises precede lifting activities. (To increase competency, may be taken four times, after which students may petition to audit. See Index: "Audit Policy.") (CSU/UC*)

215 Weight Conditioning for Varsity Track (.5-1) *(Open entry/open exit.) One and one-half to three lab hours per week. Recommended only for members of intercollegiate track and field team.* Weight-conditioning course designed for the individual development of the eighteen different events in Track and Field. (To increase competency, may be taken four times.) (CSU/UC*)

220 Weight Conditioning for Varsity Football (.5-2) *(Open entry/open exit.) One and one-half to six lab hours per week. Recommended only for Varsity Football candidates.* Designed to teach students to use overload weight training to build bulk and strength. Students work on major muscle groups, emphasizing leg and upper-body development. (To increase competency, may be taken four times.) (CSU/UC*)

Individual Sports (INDV)

120 Badminton (.5-1) *One and one-half to three lab hours per week.* Skill techniques, proper footwork, rules of play, strategies, and doubles and singles play for various

skill levels of ability. Tournaments in singles and doubles. (To increase competency, may be taken four times, after which students may petition to audit. See Index: "Audit Policy.") (CSU/UC*)

160 Golf (.5-1) *One and one-half to three lab hours per week.* Lectures on techniques, rules, etiquette, and philosophy for the beginning golfer; practical experience associated with grip, stance, and swings relative to iron and wood shots. (To increase competency, may be taken four times, after which students may petition to audit. See Index: "Audit Policy.") (CSU/UC*)

251 Beginning Tennis (.5-1) *One and one-half to three lab hours per week.* Rules and strategies of tennis, including the fundamentals of grip, strokes, footwork, and court coverage through drills and competition. Testing on rules and the various techniques taught. Class play in singles and doubles. (CSU/UC*)

252 Beginning/Intermediate Tennis (.5-1) *One and one-half to three lab hours per week.* Emphasizes service, forehand, and backhand strokes. Includes rules of play, net play, and doubles and singles strategy. (CSU/UC*)

254 Intermediate/Advanced Tennis (.5-1) *One and one-half to three lab hours per week. Recommended Preparation: successful completion of college level beginning tennis course.* Techniques and skills of basic tennis strokes used in playing doubles and singles. Philosophy and strategy of playing doubles and singles. (To increase competency, may be taken twice, after which students may petition to audit. See Index: "Audit Policy.") (CSU/UC*)

Team Sports (TEAM)

105 Advanced Baseball (.5-4) *(Open entry/open exit.) One and one-half to twelve lab hours per week. Recommended Preparation: interscholastic baseball or equivalent.* Training class for students seeking to participate in Varsity Baseball. Practice in fundamental as well as advanced skills and techniques in baseball. Written and practical testing. (To increase competency, may be taken four times.) (CSU/UC*)

110 Basketball (.5-1) *One and one-half to three lab hours per week. Recommended Preparation: high school team play or equivalent.* Basketball for students with previous experience and knowledge of basketball. Permanent teams participate in round-

robin league concluded by tournament play. Advanced drills to work on and improve skills. Advanced techniques in strategy, team play, and defenses. (To increase competency, may be taken four times.) (CSU/UC*)

118 Advanced Basketball: Women (.5-3) (Open entry/open exit.) Three to nine lab hours per week. Recommended Preparation: interscholastic basketball or equivalent. Required class for women wishing to compete on Women's Varsity Basketball Team. Advanced skills of basketball play; development of team play. (To increase competency, may be taken four times.) (CSU/UC*)

135 Advanced Football and Conditioning (.5-2.5) (Open entry/open exit.) One and one-half to seven and one-half lab hours per week. Recommended Preparation: interscholastic varsity football experience or equivalent. Review of basic skills and introduction to advanced techniques and strategies in offensive and defensive football. Stresses conditioning necessary to play the game and to achieve life-long health goals. Includes weight training. (To increase competency, may be taken four times.) (CSU/UC*)

150 Softball (.5-1) One and one-half to three lab hours per week. Basic skills, strategy, and practice in softball. Includes batting, catching, throwing, rules of play, and team strategy through round-robin competition. (To increase competency, may be taken four times.) (CSU/UC*)

158 Advanced Softball: Women (.5-2) (Open entry/open exit.) One and one-half to six lab hours per week. Recommended Preparation: interscholastic softball or equivalent. Required training class for women interested in participating on the Women's Varsity Softball team. Emphasizes advanced skills of softball, including team play, offense, and defense. (To increase competency, may be taken four times.) (CSU/UC*)

165 Advanced Track and Field: Men and Women (.5-2) (Open entry/open exit.) One and one-half to six hours per week. Recommended Preparation: interscholastic participation in track and field or cross country or equivalent. Designed to increase conditioning through weight training, with emphasis on individual needs in specific track events. Includes running and instruction in all aspects of track and field. Designed for athletes planning to participate in Varsity Track and Field in the spring semes-

ter. (To increase competency, may be taken four times.) (CSU/UC*)

171 Beginning Volleyball (.5-1) One and one-half to three lab hours per week. Fundamentals of serving, passing, setting, spiking, and team play. Emphasizes knowledge of rules. Round-robin team play, including class-ending tournaments. (CSU/UC*)

173 Intermediate Volleyball (.5-1) One and one-half to three lab hours per week. Prerequisite: TEAM 171 or demonstration of competency. Continuation of Team 171. Emphasizes fundamentals, team set-ups, play, and knowledge of the rules. Round-robin team play with concluding tournament. (CSU/UC*)

175 Advanced Volleyball (.5-1) One and one-half to three lab hours per week. Prerequisite: TEAM 173, high school team participation, or demonstration of competency. Volleyball play for advanced students of superior ability. Continuation of fundamental skills. Emphasizes team play, advanced strategy, court coverage, and rules. Round-robin and tournament play. (To increase competency, may be taken two times.) (CSU/UC*)

179 Tournament Volleyball (.5-1) One and one-half to three lab hours per week. Prerequisite: beginning course in volleyball or equivalent. For advanced beginners and intermediate level volleyball players. Emphasizes the team aspects of sports. Includes participation in organized intra-class tournaments preceded by stretching and appropriate warm-up activities. (To increase competency, may be taken four times.) (CSU/UC*)

Intercollegiate Sports (VARS)

These courses are designed for students who wish to compete in intercollegiate athletics and may be limited to those who demonstrate the highest level of athletic proficiency. Students must pass a physical exam. Sufficient skill to reduce the likelihood of injury is also required. Most varsity sports entail practice from 2-5 p.m. daily.

100 Varsity Baseball (.5-2) (Open entry/open exit.) Fifteen lab hours per week by arrangement. Recommended Preparation: interscholastic participation in varsity baseball or equivalent. Intercollegiate varsity baseball competition in the Coast Conference and with other community colleges. (CSU/UC*)

120 Varsity Cross Country: Men (.5-2) (Open entry/open exit.) Fifteen lab hours per week by arrangement. Recommended Preparation: interscholastic participation in varsity cross country or equivalent. Running against local and state-wide competition. Competitive distance: four miles. (CSU/UC*)

130 Varsity Football (.5-2) (Open entry/open exit.) Fifteen lab hours per week by arrangement. Recommended Preparation: interscholastic participation or equivalent. Intercollegiate varsity football competition in the Coast Conference. Student athletes must be ready to start practice in August before the fall semester begins. Students enrolled in twelve or more units at either Skyline or Cañada College can also participate. Participation in pre-fall practice is a prerequisite for playing in the first and second games of the season. (CSU/UC*)

185 Varsity Track and Field: Men and Women (.5-2) (Open entry/open exit.) Fifteen lab hours per week by arrangement. Recommended Preparation: interscholastic participation in track and field or cross country or equivalent. Varsity Track and Field competition for men and women in the Coast Conference. (CSU/UC*)

300 Varsity Basketball: Women (.5-2) (Open entry/open exit.) Fifteen lab hours per week minimum. Recommended Preparation: interscholastic participation in basketball or equivalent. Intercollegiate competition in the Coast Conference and California Championships. (CSU/UC*)

310 Varsity Cross Country: Women (.5-2) (Open entry/open exit.) Fifteen lab hours per week by arrangement. Recommended Preparation: interscholastic participation in cross country or track or equivalent. Cross-country and distance running competition on an intercollegiate level in the Coast Conference; participation in conference meets, invitational meets, and State Championship meets for those who qualify. Racing distance is three miles. (CSU/UC*)

320 Varsity Softball: Women (.5-2) (Open entry/open exit.) Fifteen lab hours per week minimum. Recommended Preparation: interscholastic participation in softball and completion of Team 158, Advanced Softball for Women. Intercollegiate women's varsity softball competition in the Coast Conference and State championships. (CSU/UC*)

330 Varsity Tennis: Women (.5-2) (*Open entry/open exit.*) Fifteen lab hours per week minimum. Recommended Preparation: interscholastic participation in tennis or equivalent. Intercollegiate competition in the Coast Conference, Northern California championships, and California State championships. (CSU/UC*)

Students interested in participating in the following varsity sports not offered at CSM may attend CSM and participate at Cañada or Skyline. The student must be enrolled in a minimum of 12 units to establish eligibility.

<i>Cañada</i>	<i>Skyline</i>
Basketball: Men	Basketball: Men
Golf: Men	Soccer: Men
Soccer: Men	Volleyball: Women
Soccer: Women	Wrestling
Tennis: Men	

Theory (P.E.)

115 Theory of Adapted Physical Education (4) *Three lecture and three lab hours per week.* Therapeutic practices and principles in the physical conditioning of students disabled by physical or psychological disorders. Includes practical experience in working with the disabled. (CSU)

641 Cooperative Education (1-4) (See first page of Description of Courses section.) (CSU)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

810 Adapted P.E. Assistant Lab (1-3) (*Open entry/open exit.*) *Three to nine lab hours per week.* Designed to provide hands-on experience for pre-therapy students. Includes practical experience working with disabled students in the Adapted Physical Education Program.

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Physical Science

(Also see Humanities 127 and 128)

100 Introduction to the Physical Sciences (3) *Three lecture hours per week.* Open to all students except those who are currently enrolled in or have completed a college course in physics, astronomy, or chemistry.

Survey of topics in physics, astronomy and chemistry. Emphasizes interdisciplinary aspects of science. (Intended for non-science majors.) (CSU/UC*)

675 Honors Colloquium in Physical Science (1) *One lecture hour per week.* Prerequisite: limited to students in the Honors Program who have completed or are concurrently enrolled in an associated non-honors course in physical science. Readings, discussion, and lectures covering selected advanced topics in physical science to be determined by the Physical Science Department and the Honors Program. (CSU/UC*)

676 Physical Reality and Measurement (1) *Two lecture hours per week for eight weeks.* Prerequisite: eligibility for the Honors Program and completion of or enrollment in any physical science course that includes a laboratory. Covers the nature of measurement, particularly the effects of objectivity versus subjectivity upon the observer and hence upon the observed. Discusses the reality of concepts, the quantum dilemma, and the prospect of having a perfect, "God's-Eye" view of the physical universe. (CSU)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Physics

Unless otherwise indicated, a grade of C or higher is required for all prerequisite courses.

100 Descriptive Introduction to Physics (3) *Three lecture hours per week.* Recommended Preparation: equivalent of at least one semester of high school-level algebra. Open to all students except those who have completed or are taking PHYS 210 or 250. Description with experimental demonstrations of the more important phenomena of physics. (CSU/UC*)

The Physics 210-220 sequence is designed for students majoring in some field of letters and science. It is required for students planning to enter Medicine, Dentistry, Pharmacy, Optometry, Agriculture, or Forestry.

210 General Physics I (4) *Three lecture and three lab hours per week.* Prerequisite: MATH 130. Mechanics, heat, and sound. (CSU/UC*) (CAN PHYS 2)

220 General Physics II (4) *Three lecture and three lab hours per week.* Prerequisite: PHYS 210. Magnetism, electricity, light, and modern physics. (CSU/UC*) (CAN PHYS 4)

Physics 250-260-270 constitute a three-semester program designed to give students majoring in Engineering, Physics or Chemistry a thorough foundation in the fundamentals of physics.

250 Physics with Calculus I (4) *Three lecture and three lab hours per week.* Co-requisites: concurrent enrollment in MATH 252 or 242. Mechanics, wave motion, and special relativity. Extra supplies required. (CSU/UC*) (PHYS 250, 260 and 270 = CAN PHYS SEQ B)

260 Physics with Calculus II (4) *Three lecture and three lab hours per week.* Prerequisites: PHYS 250; concurrent enrollment in MATH 253 or completion of MATH 242. Electricity and magnetism. Extra supplies required. (CSU/UC*) (PHYS 250, 260 and 270 = CAN PHYS SEQ B)

270 Physics with Calculus III (4) *Three lecture and three lab hours per week.* Prerequisites: PHYS 250; concurrent enrollment in MATH 253 or completion of MATH 242. Heat, light, and modern physics. Extra supplies required. (Spring only.) (CSU/UC*) (PHYS 250, 260 and 270 = CAN PHYS SEQ B)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Political Science

100 Introduction to Political Science (3) *Three lecture hours per week.* Recommended Preparation: eligibility for ENGL 800. Introduction to the nature of politics and to political science as a field of study. Examines the nature of the state, forms of government and political institutions, political theory and ideology, public law and administration, and international relations. (CSU/UC)

110 Contemporary Foreign Governments (3) (*Credit/No Credit or letter grade option.*) *Three lecture hours per week. Recommended Preparation: previous course in political science and eligibility for ENGL 800.* Introduction to representative foreign political systems. Comparative analysis of how varied governments reconcile stability and change, power and responsibility, freedom and efficiency. Stresses interrelationships of social patterns, ideology, and political institutions. (CSU/UC)

130 International Relations (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Introduction to the nature of relations among states, focusing on the analysis of the basic forces affecting the formulation of foreign policy and the dynamics of international politics. Covers the nation-state system, sources of national power, instruments of national policy, and the attempt to resolve international conflict by peaceful methods. (CSU/UC)

150 Introduction to Political Theory (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Study of classical and modern political thought designed to develop understanding of various theoretical approaches to politics, basic political problems, and proposed solutions to these problems. (CSU/UC)

170 Introduction to Public Administration (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Structures of Federal government organizations, the decision-making process, and focus of power within our bureaucratic system of government. Relationships among government branches, history and growth of administration in U.S., organizational theory, administrative and management theories (including leadership, personnel, and budgetary concepts) and planning and evaluation of public policies for both current and future issues. (CSU/UC)

200 National, State and Local Governments (5) *Five lecture hours per week. Recommended Preparation: eligibility for ENGL 800. Not open to students who have had PLSC 210 or 310 or a comparable course in American or state institutions.* Established primarily for students whose major is political science, prelaw, criminology, or allied behavioral and social sciences. Introduction to the principles and problems of American government at the national, state, and local levels. Examines intergovernmental relationships from a functional

point of view. Emphasizes American federalism, judicial review, the political process in the nation and state, civil liberties, foreign policy, and the role of the citizen at all levels of government. (Satisfies the American Institutions and California State and Local Government requirements.) (CSU/UC*) (CAN GOVT 2)

205 American Society (5) *Five lecture hours per week. Recommended Preparation: eligibility for ENGL 844. Offered primarily for foreign students or recent immigrants.* American society and culture, including social, political, and economic institutions as well as history. Emphasizes aspects of American life and historical development that are unique ethnic history, patterns of voluntary association in political and non-political institutions, educational trends, and cultural characteristics. (Satisfies the American Institutions and California State and Local Government requirements.) (CSU)

210 American Politics (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Study of the Constitution and the organization and functions of the branches of the Federal government; an examination of the dynamics of the American political process. (Satisfies the American Institutions requirement.) (CSU/UC*)

212 Introduction to American Politics and Society (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 844. Recommended for international students and recent immigrants but designed to meet the needs of all students.* Introduction to the institutions, constitutional framework, and dynamic processes of American democracy and to unique aspects of American society, culture, and historical development which are relevant to American politics and to the formation of national values and character. (Satisfies the American Institutions requirement.) (CSU/UC)

215 Contemporary Issues in American Politics (3) (*Credit/No Credit or letter grade option.*) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Explores, within the constitutional framework, current issues of importance to well-informed citizens in a democracy, including goals and tactics of American foreign policy, presidential elections and campaigns, corporate power, criminal justice and individual rights, interpretations of the Founders' political philosophy, Congress. (Satisfies the American Institutions requirement.) (CSU/UC)

220 The American Presidency (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Comparative critical analysis of the executive branch of American government from Franklin Roosevelt's administration to the present. Scrutinizes variations in policy-making, political activity, administrative leadership, and Executive-Legislative branch relationships. (Satisfies the American Institutions requirement.) (CSU/UC)

250 Civil Liberties and Civil Rights (3) (*Credit/No Credit or letter grade option.*) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Survey and analysis of the issues and problems considered by the U.S. Supreme Court in the area of civil liberties and civil rights. The rights of political, racial, religious, and sexual minorities and of criminal defendants; the concepts of due process and equal protection of the law; the interaction of the Supreme Court with the Constitution, President, Congress, political parties, and special interest groups. (Satisfies the American Institutions requirement.) (CSU/UC)

255 Women, Politics and Power (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* The changing roles of women in the political process. Emphasizes the methodology, rationale, and effect of women's participation on several levels of political activity. (Satisfies the American Institutions requirement.) (CSU/UC)

260 Contemporary Ethnic Politics (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Survey and analysis of goals, methods and achievements of African, Asian and Latino Americans in their pursuit of political equality from the 1960s to the present. (Satisfies the American Institutions requirement.) (CSU/UC)

310 California State and Local Government (2) (*Credit/No Credit or letter grade option.*) *Two lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* The institutions and problems of state and local government in California. (Satisfies the California State and Local Government requirement.) (CSU)

415 Race to Save the Planet (3) (*Tele-course*) *Recommended Preparation: completion of at least one Social Science class.* Examines one of the most critical political issues of the 1990's, the environment. The course is divided into three areas: the devel-

opment of environmental problems, the current condition of politics, and the environmental and political solutions. (CSU)

520 The Governments and Politics of Africa (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Study of the emergent African states, examining the political factors impacting on their decision-making processes and their geopolitical consequences. Comparative analysis of non-Western institutional structures; differences in ideological orientation; and economic interdependence in the context of contemporary world politics. (CSU/UC)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Psychology

(Also see *Sociology*)

100 General Psychology (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Survey of major topics, theories, and research methods of contemporary psychology. Covers personality, social behavior, memory, motivation, emotion, perception, learning, and biological basis of behavior. (CSU/UC) (CAN PSY 2)

105 Experimental Psychology (3) *(Credit/No Credit or letter grade option.) Three lecture hours per week. Prerequisite: PSYC 100 with a grade of C or higher. Recommended Preparation: PSYC 121.* Philosophy and aims of scientific inquiry and its application to questions in psychology. Students conduct experiments using the methods discussed. (CSU/UC)

108 Psychology in Practice (3) *(Credit/No Credit or letter grade option.) Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Application of psychological principles to problems of everyday living, in contrast to the technical-scientific approach of Psychology 100. Intended for students who want a general picture of human psychology. (May not be taken for credit following PSYC 100.) (CSU)

110 Courtship, Marriage, and the Family (3) *(Credit/No Credit or letter grade option.) Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* History and development of marriage as a social institution, including dating; courtship; love; mate selection; personality adjustment in marriage; children; parenthood; the family; anatomical, physiological, psychological, and sociological aspects of sex; religious factors; and divorce. (May not be taken for credit following SOCI 110.) (CSU)

121 Basic Statistical Concepts (3) *Three lecture hours per week. Prerequisite: MATH 120 or four semesters of high school level algebra with a C average; PSYC 100 or SOCI 100 or ANTH 110. Recommended Preparation: eligibility for ENGL 800.* Introduction to the basic descriptive techniques and statistical inferences used in the behavioral sciences. (CSU/UC*) (CAN PSY 6)

200 Developmental Psychology (3) *Three lecture hours per week. Prerequisite: PSYC 100 with a grade of C or higher. Recommended Preparation: eligibility for ENGL 800.* Psychological development from birth through old age. Examines physical, cognitive, and social changes throughout the lifespan. Particular emphasis is placed on research studies that illustrate principles of developmental psychology. (UC credit limited to either PSYC 200 or 201.) (CSU/UC*)

201 Child Development (3) *Three lecture hours per week. Prerequisite: PSYC 100. Recommended Preparation: eligibility for ENGL 800.* Study of the physical, perceptual, cognitive, linguistic, social, and emotional development of children. Emphasizes current research and theory. (UC credit limited to either PSYC 200 or 201.) (CSU/UC*)

300 Social Psychology (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Study of human interaction, with emphasis on social patterning and process of perception, identity, roles, and attitudes. (May not be taken for credit following SOCI 300.) (CSU/UC*)

330 Sports Psychology (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Analysis of psychological and sociological elements of participation in sports. Examination of mental factors that help produce optimum performance. The personal and collective meaning of sports in our society. (CSU)

410 Abnormal Psychology (3) *(Credit/No Credit or letter grade option.) Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Study of abnormal behavior and personality. Covers neuroses, psychoses, and other psychological problems, along with their etiology, dynamics, principal symptoms, and treatments. Explores the relationship between theory of personality and psychotherapy. (CSU/UC)

675 Honors Colloquium in Psychology (1) *One lecture hour per week. Prerequisite: limited to students in the Honors Program who have completed or are concurrently enrolled in an associated non-honors course in Psychology.* Readings, discussion, and lectures covering selected advanced topics in Psychology to be determined by the Psychology Department and the Honors Program. (CSU/UC*)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Reading

410 Effective Study for Sociology 100 (.5-3) *(Credit/No Credit grading) (Open entry/open exit.) One-half to three lecture hours per week. Corequisite: concurrent enrollment in SOCI 100. Recommended Preparation: READ 802 with a grade of C or higher (or appropriate skill level indicated by the Reading Placement Test and other measures).* Designed for students placed in READ 420 or higher. Covers basic principles of reading and study strategies as applied to Sociology 100 weekly textbook assignments. Develops note-taking skills, test-taking strategies, and other academic study methods as applied to Sociology 100. (CSU)

420 Speed and Effective Reading (.5-3) *(Credit/No Credit or letter grade option.) (Open entry/open exit.) Three lecture hours plus one lab hour by arrangement per week. Prerequisite: READ 802 with a grade of C or higher (or appropriate skill level indicated by the Reading Placement Test and other measures).* For advanced students who want to increase reading speed, study more efficiently, and improve comprehen-

sion and critical reading skills. Recommended for transfer students. (CSU)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

The following reading courses are credit-bearing but not degree-applicable, which means that the units count for the purpose of financial aid but not toward the AA/AS degree: 800, 801, 802, 807, 808, 809, 812, 841, 842, and 843.

800 Preparation for College Reading (3) (Credit/No Credit or letter grade option.)

Three lecture hours plus one lab hour by arrangement per week. Recommended Preparation: READ 843 with a grade of C or higher (or appropriate skill level indicated by the Reading Placement Test and other measures). Strategies for successful basic comprehension: main ideas, supporting details, word building, and speed efficiency. Practice in reading a variety of fiction and nonfiction materials and application of basic study skills. Qualifies as preparation for Reading 801. (To increase competency, may be taken twice for a maximum of 6 units.) (Units do not apply toward AA/AS degree.)

801 Introduction to College Reading I (3) (Credit/No Credit or letter grade option.)

Three lecture hours plus one lab hour by arrangement per week. Recommended Preparation: READ 800 with a grade of C or higher or 843 with a grade of B or higher (or appropriate skill level indicated by the Reading Placement Test and other measures). Intended to help students increase comprehension of college textbooks and improve study strategies such as textbook marking, notetaking, test taking, concentration, critical reading, vocabulary, and speed. Qualifies as preparation for Reading 802. (To increase competency, may be taken twice for a maximum of 6 units.) (Units do not apply toward AA/AS degree.)

802 Introduction to College Reading II

(3) (Credit/No Credit or letter grade option.) Three lecture hours plus one lab hour by arrangement per week. Recommended Preparation: READ 801 with a grade of C or higher (or appropriate skill level indicated by the Reading Placement Test and other measures). Application of advanced reading and study strategies to college textbook chapters in various disciplines. Practice in content area test-taking strategies, advanced critical thinking, speed, and vocabulary essential to academic work. Prepa-

ration for reading in academic courses such as social sciences, humanities, natural sciences, and literature. Meets reading requirement for A.A. and A.S. degrees. (To increase competency, may be taken twice for a maximum of 6 units.) (Units do not apply toward AA/AS degree.)

807 Basic Phonic Skills for Non-Native Speakers (3) (Credit/No Credit or letter grade option.)

Three lecture hours plus one lab hour by arrangement per week. It is recommended that students enroll concurrently in ENGL 841 or higher course, READ 841 or higher course, and SPCH 841 or higher course. Introduction to the study of basic speech sounds and practice in techniques for pronouncing unknown words. Group and individual review of dictionary symbols, diacritical marks, syllabication, and fundamental phonic generalizations. (To increase competency, may be taken twice for a maximum of 6 units.) (Units do not apply toward AA/AS degree.)

808 Basic Phonic Skills (3) (Credit/No Credit or letter grade option.)

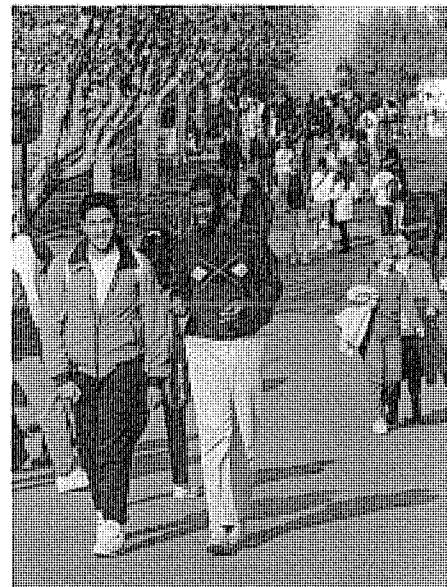
Three lecture hours plus one lab hour by arrangement per week. Introduction to basic speech sounds and practice in techniques for pronouncing unknown words. Group and individual review of dictionary symbols, diacritical marks, syllabication, and fundamental phonic generalizations. (To increase competency, may be taken twice for a maximum of 6 units.) (Units do not apply toward AA/AS degree.)

809 Spelling/Word Attack Strategies (3)

(Credit/No Credit grading.) Three lecture hours plus one lab hour by arrangement per week. Recommended Preparation: READ 807 or 808 with a grade of C or higher (or appropriate skill level indicated by the Reading Placement Test and other measures). Individual spelling and/or word attack skill assistance. Self-paced programs based on individual assessment results. Emphasizes computer-assisted and audio-visual instruction. Students may enroll any time through the tenth week of the semester. (To increase competency, may be taken twice for a maximum of 6 units.) (Units do not apply toward AA/AS degree.)

812 Individualized Reading Improvement

(.5-3) (Credit/No Credit grading.) (Open entry/open exit.) One and one-half to nine lab hours by arrangement per week. Improvement of reading skills. Practice in methods of increasing speed, comprehension, and vocabulary. Emphasizes com-



Warm, friendly campus environment.

puter-assisted and audio-visual instruction. Uses self-paced programs based on individual diagnostic test results to meet specific student needs. Open to all students. Students may enroll any time through the tenth week of the semester. (To increase competency, may be taken up to four times for a maximum of 6 units.) (Units do not apply toward AA/AS degree.)

841 Reading for Non-Native Speakers I

(3) (Credit/No Credit or letter grade option.) Three lecture hours plus one lab hour by arrangement per week. It is recommended that students enroll concurrently in ENGL 841 or higher course, SPCH 841 or higher course, and READ 807. Designed to build basic vocabulary skills, improve the understanding of written instructions, and introduce main ideas and details. (To increase competency, may be taken twice for a maximum of 6 units.) (Units do not apply toward AA/AS degree.)

842 Reading for Non-Native Speakers II

(3) (Credit/No Credit or letter grade option.) Three lecture hours plus one lab hour by arrangement per week. Recommended Preparation: READ 841 with a grade of C or higher (or appropriate skill level indicated by the Reading Placement Test and other measures). It is recommended that students enroll concurrently in ENGL 841 or higher course, SPCH 841 or higher course, and READ 807. Designed to improve vocabulary, build general background knowledge, and strengthen literal and inferential reading skills. (To increase competency, may be taken twice for a maxi-

mum of 6 units.) (Units do not apply toward AA/AS degree.)

843 Reading for Non-Native Speakers III

(3) (*Credit/No Credit or letter grade option.*) *Three lecture hours plus one lab hour by arrangement per week. Recommended Preparation: READ 842 with a grade of C or higher (or appropriate skill level indicated by the Reading Placement Test and other measures).* It is recommended that students enroll concurrently in ENGL 841 or higher course and SPCH 841 or higher course. Designed to emphasize higher-level vocabulary, focus on critical reading, increase basic reading speed, and introduce fiction. (To increase competency, may be repeated for a maximum of 6 units.) (Units do not apply toward AA/AS degree.)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Real Estate

An orientation will be held within the first three weeks of the semester to provide information to students regarding Real Estate and Appraisal licensure requirements.

For licensed real estate agents, R.E. 100 and 105 may be waived as prerequisites for all real estate courses. A photocopy of license must be filed with the Office of Admissions and Records.

100 Real Estate Principles (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Property, contracts, agency, financing, recordation, liens and encumbrances, taxes, escrows, land description, and real estate math. (Meets State requirements for the salesperson's and the broker's licenses.) (CSU)

105 Real Estate Valuation (3) *Three lecture hours per week. Recommended Preparation: completion of or concurrent enrollment in R.E. 100.* Development of California real estate principles; measuring changing value of money. Estimating: costs, depreciation, taxes, maintenance, and return on investment. Accounting: rules pertaining to capital gains and losses, accelerated methods of calculating depreciation charges. (Meets the State requirements for the salesperson's and the broker's licenses; certified by the National Association of Real Estate Appraisers.) (CSU)

110 Real Estate Practice (3) *Three lecture hours per week. Prerequisites: R.E. 100 and 105 or equivalent.* Comprehensive pre-

sentation of real estate brokerage skills in California, emphasizing the daily activities of agents and brokers. (Meets the State requirements for the salesperson's and broker's licenses.) (CSU)

121 Legal Aspects of Real Estate I (3) *Three lecture hours per week. Prerequisites: completion of or concurrent enrollment in R.E. 110 or equivalent.* Legal aspects of real estate brokerage, real estate sales, property management, real estate ownership, building of an estate, and related topics, along with a study of the facts and principles of California Real Estate Law. (Meets the State requirements for the salesperson's and the broker's licenses.) (CSU)

122 Legal Aspects of Real Estate II (3) *Three lecture hours per week. Prerequisite: R.E. 121 or equivalent.* Contracts, security transactions, and current developments in law. Course materials include selections of California appellate court decisions. For the serious student who will devote the required time of approximately six hours of study each week. (Meets the State requirements for the broker's license.)

131 Real Estate Finance I (3) *Three lecture hours per week. Prerequisites: R.E. 100 and 105 or salesperson's or broker's license; completion of or concurrent enrollment in R.E. 110.* Practices, customs, and laws relating to mortgage lending and the financing of real estate, with emphasis on financing private houses. (Meets the State requirements for the salesperson's and the broker's licenses.) (CSU)

132 Real Estate Finance II (3) *Three lecture hours per week. Prerequisite: R.E. 131 or equivalent.* Financing of commercial, industrial, and special-purpose properties. Financing mathematics, financial analysis, construction financing, and feasibility studies, creative financing, and government participation through social action programs. (Meets the State requirements for the broker's license.)

141 Real Estate Appraisal: Basic (3) *Three lecture hours per week. Prerequisites: R.E. 100 and 105 or equivalent.* Basic real estate appraisal, including the analysis of residential and commercial properties. Techniques for determination of loan, market, and insurance values. (Meets the State requirements for the salesperson's and broker's licenses.) (CSU)

142 Real Estate Appraisal: Intermediate (3) *Three lecture hours per week. Prerequisite: R.E. 141 or equivalent.* More complex

aspects of appraisal process, including standards and ethics and narrative report writing. (Meets the State requirements for Appraisal Licensure.) (CSU)

143 Real Estate Appraisal: Advanced (3) *Three lecture hours per week. Prerequisite: R.E. 142 or equivalent.* Advanced real estate appraisal of multi-family dwellings, apartment houses, commercial, and special purpose property. (Meets the State requirements for the broker's license.) (CSU)

145 Real Estate Appraisal: Rural (3) *Three lecture hours per week. Prerequisites: R.E. 141 or equivalent.* Advanced real estate appraisal of rural properties, covering row crop, orchard, and livestock properties. (Meets the State requirements for the broker's license.) (CSU)

200 Real Estate Economics (3) *Three lecture hours per week. Prerequisites: R.E. 100 and 105 or equivalent.* Economic aspects of real estate designed to provide a grasp of the dynamic economic conditions and related factors underlying the real estate business. (Meets the State requirements for the salesperson's and broker's licenses.) (CSU)

205 Real Estate Mathematics (3) *Three lecture hours per week.* Review of the fundamentals of mathematics as they apply to real estate practice, with problems in amortization, appraising, broker's trust fund accounts, interest, and capitalization techniques.

210 Real Estate Exchanges and Taxation (3) *Three lecture hours per week. Prerequisites: R.E. 110, 121, 131, and 141 or equivalent.* Advanced course for real estate brokers and investors with experience in residential and commercial transactions. Primary emphasis on developing and analyzing exchange transactions, practical and technical aspects of completion, the correlation of exchanges, and tax matters. (Meets the State requirements for the broker's license.) (CSU)

215 Commercial and Investment Property (3) *Three lecture hours per week. Prerequisites: R.E. 110, 121, 131, and 141 or equivalent.* For licensed real estate agents and brokers, financing officials, and investors. Emphasizes the process of selecting properties for investment, including analyzing income, operating expenses, and income tax implications. (Meets the State requirements for the salesperson's and broker's licenses.) (CSU)

220 Real Estate Property Management (3) *Three lecture hours per week. Prereq-*

quisites: R.E. 110, 121, 131, and 141 or license equivalent. Basic elements of investment property management. Covers cash flow projection and valuation, merchandising, maintenance, and evictions. Emphasizes apartment property. (Meets the State requirements for the salesperson's and broker's licenses.) (CSU)

225 Real Estate Office Administration (3) *Three lecture hours per week. Prerequisites: R.E. 110, 121, 131, and 141 or equivalent.* Introduction to management: research, personnel, and market management decisions; transition from sales associate to manager; personnel training, counseling, and compensation; trends in the industry and their implications for management. (Meets the State requirements for the salesperson's and broker's licenses.)

230 Real Estate Internship (4) *Two lecture hours and ten laboratory hours per week. Prerequisite: completion of or concurrent enrollment in R.E. 100.* Supervised work experience and seminar. Practical application of classroom skills. Intended to assist the student enrolled in the Cooperative Education program. (As of Spring 1987, will be accepted by the State Department of Real Estate as a qualification for salesperson's license and as a substitution for R.E. 110.)

235 Real Estate Sales Techniques (3) *Three lecture hours per week. Prerequisites: R.E. 100 and 105 or equivalent.* Specialized techniques required to promote an effective sales record. Coordinates the theoretical background required for State examinations into the area of property merchandising.

301 Escrow Procedures: Basic (3) *Three lecture hours per week.* Methods and techniques of escrow procedure for various types of business transactions with emphasis on real estate. (Meets the State requirements for the salesperson's and broker's licenses.)

303 Escrow Practices: Intermediate (3) *Three lecture hours per week. Prerequisites: R.E. 301 or equivalent.* Course covers unusual types of escrow and evaluating possible solutions. (Meets the State requirements for the salesperson's and broker's licenses.)

305 Escrow Problems: Advanced (3) *Three lecture hours per week. Prerequisite: R.E. 303 or equivalent.* Further study of unusual and difficult types of escrows. Presents case problems, conflicts and disputes in escrow for discussion. (Meets the State requirements for the salesperson's and broker's licenses.)

311 Title Examination Procedures I (3) *Three lecture hours per week. Prerequisite: R.E. 100.* Preliminary study of documents comprising a chain of title and evaluation of the validity of chain of title documents. Field trips required.

313 Title Examination Procedures II (3) *Three lecture hours per week. Prerequisite: R.E. 311.* Designed to supplement R.E. 311. Practical and advanced comprehensive study of title examining problems. Field trips required.

641 Cooperative Education (1-4) (See first page of Description of Courses section.) (CSU)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

801 Real Estate License Exam Preparation (1.5) *Three lecture hours per week for eight weeks. Prerequisite: completion of or concurrent enrollment in R.E. 100 or equivalent.* Preparation for the California Real Estate License Exam. Includes the following topics: agency, ethics, contract, ownership, encumbrances, taxation, escrow, and land descriptions. (Units do not apply toward AA/AS degree.)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Sign Language

(see American Sign Language)

Social Science

111 Critical Thinking (3) *Three lecture hours per week. Prerequisite: ENGL 100.* Designed to develop critical thinking and critical writing skills. Presents techniques for analyzing arguments used in political rhetoric, advertising, editorials, scientific claims, and social commentary. Develops the ability to create and refine written arguments, with particular emphasis on advanced composition techniques. Includes inductive and deductive arguments, the validity and consistency of arguments, the relationship between evidence and conclusions, the use of arguments in science, persuasive writing strategies, the concerns of style and audience, and impediments to good writing. (CSU/UC) (CAN PHIL 6)

220 British Life and Culture (3) (*Credit/No Credit or letter grade option.*) *One and one-half lecture hours and five lab hours per week.* Introduction to British society and civilization through lectures and field trips offered by the London Semester program of the SMCCCD. Takes a social, historical, and cultural approach to the study of contemporary British society. Required for enrollees in the London Semester. (CSU/UC)

221 French Life and Culture (3) (*Credit/No Credit or letter grade option.*) *One and one-half lecture hours and five lab hours per week.* Introduction to French society and civilization by various lecturers in the Paris Semester program of the SMCCCD. Combines lectures with visits to and briefings at several cultural and political centers. Required for enrollees in the Paris Semester. (CSU/UC)

301 Introduction to Alcohol and Other Drug Studies (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* An introductory course for students who are interested in any area of human services and who wish to increase their knowledge of substance abuse (alcohol and other drugs) in society. Covers the history of alcohol and other drug abuse, its impact on the community and the community's responses. Includes cultural factors of use and abuse of chemical prevention strategies and individual/society intervention. Also covers theories of substance abuse and identification of signs and symptomatology, as well as treatment resources and myths of use. (CSU)

302 Pharmacology and Physiological Effects of Alcohol and Other Drug Abuse (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* A theory course focusing on the effects of alcohol and other drugs upon the body and studying the physiology of alcohol and other drugs in two areas: physical effects of alcohol and other drugs on the body and the physiological effects of the disease of alcoholism and of drug abuse. (CSU)

303 Alcohol and Other Drug Abuse Prevention and Education (3) *Three lecture hours per week. Recommended Preparation: SOSC 301 and eligibility for ENGL 800.* History, theories, models, and approaches to prevention. Review of research on epidemiology, environmental factors and prevention strategies; effective prevention programs. (CSU)

304 Intervention, Treatment and Recovery (3) *Three lecture hours per week. Recommended Preparation: SOSC 301 and eligibility for ENGL 800.* Introduction to the recovery process in chemical dependency; covers intervention strategies, dependency in its clinical and social contexts, and philosophical, organizational and clinical approaches in treatment. (CSU)

307 Counseling The Family of The Addicted Person (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Designed to assist the significant persons (family, employer, etc.) in the lives of chemically dependent persons. The AOD (alcohol and other drug) counselor will develop strategies to address the dynamics of the interrelationships of the family members. The approach is highly experiential with exercises to develop family counseling skills. (CSU)

308 Individual and Group AOD (Alcohol and Other Drug) Counseling Process (3) *Three lecture hours per week. Recommended Preparation: eligibility for English 800.* Explores various beginning AOD (alcohol and other drug) counseling techniques, as well as interviewing and referral skills. Using the experiential format, participants learn and practice skills in attentive listening, recognizing and responding to different levels of client communication. The theory and practice of group leadership in group counseling process and group interaction will be studied as a means to change behavior. (CSU)

315 Field Studies and Seminar I (3) *Three lecture hours per week plus completion of at least 100 hours of documented work in an agency or organization in the alcohol/drug abuse field (255 hours if CAADAC certification is sought). Prerequisite: SOSC 301 and 302. Recommended Preparation: eligibility for ENGL 800.* Supervised practicum/internship. The first semester of a two-semester sequence placing students in alcohol/drug abuse agencies or organizations. Participants must already be knowledgeable about chemical dependency. (CSU)

316 Field Studies and Seminar II (3) *Three lecture hours per week plus completion of at least 100 hours of documented work in an agency or organization in the alcohol/drug abuse field (255 hours if CAADAC certification is sought). Prerequisite: SOSC 315. Recommended Preparation: eligibility for ENGL 800.* Supervised

practicum/internship. The second semester of a two-semester sequence placing students in alcohol/drug abuse agencies or organizations. Participants must already be knowledgeable about chemical dependency. (CSU)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Sociology

100 Introduction to Sociology (3) *(Credit/No Credit or letter grade option.) Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800; READ 802 with a grade of C or higher (or appropriate skill level indicated by the Reading Placement Test and other measures.)* Group behavior and interaction of the individual and society; personality development in different cultures as shaped by customs, attitudes and values. Study of family, politico-economic, educational, and religious institutions; social movements; population; mass society and communications; community structure; social class and status; ethnic and racial minorities; work and leisure. (CSU/UC) (CAN SOC 2)

105 Social Problems (3) *(Credit/No Credit or letter grade option.) Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Theories of social problems involving sociological and psychological approaches. Theoretical and descriptive studies of crime, delinquency, mental illness, drug use, suicide, and the other social problems of mass society. (CSU/UC) (CAN SOC 4)

110 Courtship, Marriage and the Family (3) *(Credit/No Credit or letter grade option.) Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* History and development of marriage as a social institution, including dating; courtship; love; mate selection; personality adjustment in marriage; children; parenthood; the family; anatomical, psychological, and sociological aspects of sex; class and religious factors; divorce; and remarriage. (May not be taken for credit following PSYC 110.) (CSU)

141 Race and Ethnic Relations (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Sociological analysis of ethnic relations in the United States, concentrating on the roles, status, and efficacy of major ethnic groups. Brief socio-historical sketch of their backgrounds, ethnic group contacts, competition, conflict, acculturation, assimilation, and discrimination. (CSU/UC*)

200 Urban Sociology (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Cities, suburbs, and metropolitan areas; ecology and growth; social class and racial trends; education; crime; local government and politics; planning and experimental solutions; county history; and social patterns. (Satisfies the California State and Local Government requirement.) (CSU/UC)

300 Social Psychology (3) *(Credit/No Credit or letter grade option.) Three lecture hours per week. Recommended Preparation: SOCI 100 or PSYC 100. Recommended Preparation: eligibility for ENGL 800.* Study of human interaction, with emphasis on social patterning and processes of perception, identity, roles, and attitudes. (May not be taken for credit following PSYC 300.) (CSU/UC)

340 Human Sexuality (3) *(Credit/No Credit or letter grade option.) Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* A look at human sexuality from a psychological, physiological, and cultural point of view. Survey of sexual research; emphasizes the need for affiliation, commitment, and intimacy. (CSU/UC)

391 Parent-Child Relations (3) *(Tele-course.) (Credit/No Credit or letter grade option.) Recommended Preparation: eligibility for ENGL 800.* Analysis of problems faced by new and prospective parents. Study of parent-child interaction and perception of attitudes, roles, and identity. Explores alternative solutions and coping strategies to assist parents in the process of guiding their children's growth and development. Partial focus on Black and Latino families. (CSU)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Spanish

Language Laboratory and Listening

Requirement: since imitation, response, and independent practice are integral features of the study of a foreign language at the College, students enrolled in certain courses in foreign language are required to use the language laboratory as prescribed by each department.

110 Elementary Spanish (5) *Five lecture hours plus two lab hours by arrangement per week. Recommended Preparation: eligibility for ENGL 811 or a higher English course.* Spanish structures and active vocabulary based on oral and written pattern drills. Conversation based on short readings containing only the structures already practiced. (CSU/UC)

111 Elementary Spanish I (3) *Three lecture hours plus one lab hour by arrangement per week. Recommended Preparation: eligibility for ENGL 811 or a higher English course.* Covers approximately the first half of the semester's work in Spanish 110. (CSU/UC*)

112 Elementary Spanish II (3) *Three lecture hours plus one lab hour by arrangement per week. Prerequisite: SPAN 111 with a grade of C or higher.* Covers approximately the second half of the semester's work in Spanish 110. (Spanish 111 and 112 are equivalent to Spanish 110.) (CSU/UC*)

120 Advanced Elementary Spanish (5) *Five lecture hours plus two lab hours by arrangement per week. Prerequisite: SPAN 110 or 112 with a grade of C or higher.* Continuation of Spanish 110. Includes short readings that serve as a basis for classroom conversation. (CSU/UC)

121 Advanced Elementary Spanish I (3) *Three lecture hours plus one lab hour by arrangement per week. Prerequisite: SPAN 110 or 112 with a grade of C or higher.* Covers approximately the first half of the semester's work in Spanish 120. (CSU/UC*)

122 Advanced Elementary Spanish II (3) *Three lecture hours plus one lab hour by arrangement per week. Prerequisite: SPAN 121 with a grade of C or higher.* Covers approximately the second half of the semester's work in Spanish 120. (Spanish 121 and 122 are equivalent to Spanish 120.) (CSU/UC*)

130 Intermediate Spanish (5) *Five lecture hours plus one lab hour by arrangement per week. Prerequisite: SPAN 120 or 122 with a grade of C or higher.* Practice of conversation and composition; review of grammar; in-class and collateral reading of Spanish and Spanish-American literature. (CSU/UC)

131 Intermediate Spanish I (3) *Three lecture hours plus one lab hour by arrangement per week. Prerequisite: SPAN 120 or 122 with a grade of C or higher.* Covers approximately the first half of the semester's work in Spanish 130. (CSU/UC*)

132 Intermediate Spanish II (3) *Three lecture hours plus one lab hour by arrangement per week. Prerequisite: SPAN 131 with a grade of C or higher.* Covers approximately the second half of the semester's work in Spanish 130. (Spanish 131 and 132 are equivalent to Spanish 130.) (CSU/UC*)

140 Advanced Intermediate Spanish (3) *Three lecture hours per week. Prerequisite: SPAN 130 or 132 with a grade of C or higher.* Further practice in conversation and composition based on in-class reading of modern Spanish and Latin American authors; review of grammar; collateral reading of Spanish and Spanish-American literature. (CSU/UC)

161 Reading in Spanish Literature I (3) *Three lecture hours per week. Prerequisite: SPAN 140 with a grade of C or higher.* Oral and written composition; in-class reading and discussion of Spanish, Spanish-American, and Hispanic literature; extensive collateral reading of Spanish and Spanish-American literature; and review of grammar. (CSU/UC)

162 Reading in Spanish Literature II (3) *Three lecture hours per week. Prerequisite: SPAN 161.* Further oral and written composition; in-class reading of Spanish and Spanish American literature; extensive collateral reading of Spanish and Spanish-American literature, and review of grammar. (CSU/UC)

201 Spanish Conversation I (2) *Two lecture hours plus one lab hour by arrangement per week. Prerequisite: concurrent enrollment in or completion of SPAN 130 or higher course with a grade of C or higher.* Extensive practice in conversational Spanish based on Spanish customs and culture; systematic topical vocabulary increments; advanced phonetic mimicry. (CSU/UC)

202 Spanish Conversation II (2) *Two lecture hours plus one lab hour by arrangement per week. Prerequisite: SPAN 201 with a grade of C or higher.* Continued practice in conversational Spanish based on Spanish customs and culture; systematic topical vocabulary increments; advanced phonetic mimicry. (CSU/UC)

251 Hispanoamerica Contemporanea (3) *Three lecture hours per week. Prerequisites: SPAN 140 with a grade of C or higher or Spanish-speaking background.* Study of problems and concerns of Latin American culture, as revealed in contemporary literature (essay, short story, drama and novel). Conducted in Spanish. (CSU/UC)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

801 Conversational Spanish I, Elementary (2) *(Credit/No Credit grading.) Three lecture hours per week.* Intensive drill in the patterns and idioms of daily speech, supported by sufficient grammar to give flexibility in the spoken language. May be considered an excellent preparatory course for students who have not taken a foreign language before. (This course will not fulfill the language requirements at California State Universities or at the University of California.)

802 Conversational Spanish II, Advanced Elementary (2) *(Credit/No Credit grading.) Three lecture hours per week. Prerequisite: SPAN 801 or equivalent with credit.* Further work in conversation following the model of Spanish 801. (This course will not fulfill the language requirements at California State Universities or at the University of California.)

803 Conversational Spanish III, Intermediate (2) *(Credit/No Credit grading.) Three lecture hours per week. Prerequisite: SPAN 802 or equivalent with credit.* More advanced work in conversation following the model of Spanish 802. (This course will not fulfill the language requirements at California State Universities or at the University of California.)

804 Conversational Spanish IV, Advanced Intermediate (2) *(Credit/No Credit grading.) Three lecture hours per week. Prerequisite: SPAN 803 or equivalent with credit.* Further advanced work in conversation following the model of Spanish

(CSU) Transferable to California State Universities, (UC) Transferable to University of California, (*) With limitations

803. (This course will not fulfill the language requirements at California State Universities or at the University of California.)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Speech

The Speech program includes courses in public speaking, interpersonal communication, communicating across cultures, voice and articulation, and oral interpretation of literature. The English requirement may be partially satisfied by 3 units of Speech 100 or Speech 120. The following Speech courses are credit-bearing but not degree-applicable, which means that the units count for the purposes of financial aid but not toward the AA/AS degree: 841, 842, 843.

100 Fundamentals of Speech and Persuasion (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 100.* Practice in delivering extemporaneous speeches; study of basic principles of effective communication; techniques of organizing and outlining; structure and content of basic speech types; development of critical listening; analysis and evaluation of speeches. (CSU/UC) (CAN SPCH 4)

111 Oral Interpretation I (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 100.* Oral reading of different forms of literature (poetry, short story, drama); analysis of meaning; analysis of voice quality; enunciation, pronunciation and expressiveness; recordings and performances for audiences. (CSU/UC)

112 Oral Interpretation II (3) *Three lecture hours per week. Prerequisite: SPCH 111 with a grade of C or higher.* Continuation of oral reading of different forms of literature (poetry, short story, drama); analysis of meaning; analysis of voice quality; enunciation, pronunciation, and expressiveness; recordings and performances for audiences. (CSU/UC)

120 Interpersonal Communication (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Interpersonal communication, rational dialogue, and cooperative analysis of communicative events. Study of communicative interactions, the symbolic process, reasoning and advocacy, and the effects of communication on man and society. (CSU)

130 Voice and Articulation (3) *Three lecture hours per week. Recommended Preparation: completion of or concurrent enrollment in an English course no lower than ENGL 800 or ENGL 400.* Exploration of various modes of communicating intellectual and emotional content of messages through a meaningful use of the voice. Lessons in vocal variety, expressiveness, resonance, articulation, and pronunciation. (CSU)

150 Communicating Across Cultures (3) *Three lecture hours per week. Recommended Preparation: (for students whose native language is other than English) SPCH 844 or demonstrated equivalent oral communication skills and concurrent enrollment in or completion of an English course no lower than ENGL 400 or (for students whose native language is English) eligibility for ENGL 800.* Designed for students of all cultural backgrounds. Study of basic theory and skills of round table discussion, panel discussion, and public speaking in an intercultural context, with a focus on the nature of communication in American society. Emphasizes the sensitivity and empathy required for communicating with those from other cultures. (CSU/UC)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

841 Conversation for Non-Native Speakers I (3) *(Credit/No Credit grading.) (Three lecture hours plus one lab hour by arrangement per week. It is recommended that students enroll concurrently in ENGL 841 or higher course, READ 841 or higher course, and READ 807.* Introduction, comprehension, and practice of listening and speaking skills: listening skills in discrimination, recognition, and understanding of consonants, intonation, and questions-statements-requests respectively; speaking skills in the appropriate language for specific functions, in consonant and vowel production in all positions, and in the imitation of stress and intonation patterns of native English speakers. (To increase competency, may be taken twice for a maximum of 6 units.) (Units do not apply toward AA/AS degree.)

842 Conversation for Non-Native Speakers II (3) *(Credit/No Credit grading.) Three lecture hours plus one lab hour by arrangement per week. Recommended Preparation: SPCH 841 with credit (or ap-*

propriate skill level indicated by placement tests and other measures). It is recommended that students enroll concurrently in ENGL 841 or higher course, READ 841 or higher course, and READ 807. Continued introduction, comprehension, and practice in listening and speaking skills: listening skills in discrimination of vowels, in recognition of English sentence rhythm, in extraction of information of articulated speech, and identification of a variety of intonation patterns; speaking skills in appropriate language for specific functions, in practicing vowel contrasts and consonant clusters, in articulation of grammatical suffixes, and in correct usage of stress and intonation patterns. (To increase competency, may be taken twice for a maximum of 6 units.) (Units do not apply toward AA/AS degree.)

843 Speech for Non-Native Speakers I (3) *(Credit/No Credit or letter grade option.) Three lecture hours per week. Recommended Preparation: SPCH 842 with credit (or appropriate skill level indicated by placement tests and other measures).* It is recommended that students enroll concurrently in ENGL 843 or higher course and READ 843, 800, 801, or 802. Practice in using pitch, rate, volume, and vocal quality to convey accurate meaning and emotion; practice in discussion, interviews, and extemporaneous public speaking; listening skills appropriate for discussions, interviews, and public speaking. (Units do not apply toward AA/AS degree.)

844 Speech for Non-Native Speakers II (3) *Three lecture hours per week. Recommended Preparation: SPCH 843 with a grade of C or higher (or appropriate skill level indicated by placement tests and other measures).* It is recommended that students enroll concurrently in ENGL 843 or higher course and READ 801, 802, or 420. Study of the effect of values, perception, language, and nonverbal behavior on communication with Americans; practical application of effective communication skills through practice in class discussions and small group discussions.

848 Accent Reduction for Non-Native Speakers I (1.5) *(Credit/No Credit grading.) Three lecture hours per week for eight weeks and ten lab hours by arrangement during the eight-week module. Recommended Preparation: eligibility for SPCH 843 or higher.* Designed for non-native speakers of English. Accent reduction focusing on the production of vowels, diphthongs, and consonants and on the correct

(CSU) Transferable to California State Universities, (UC) Transferable to University of California, (*) With limitations

use of pitch, rate, and volume. (Units do not apply toward AA/AS degree.)

849 Accent Reduction for Non-Native Speakers II (1.5) (*Credit/No Credit grading.*) *Three lecture hours per week for eight weeks and ten lab hours by arrangement during the eight-week module. Prerequisite: SPCH 848 with credit or demonstrated equivalent skills.* Designed for non-native speakers of English. Advanced practice in accent reduction focusing on articulation, pronunciation, pitch, rate, volume, vocal quality, and vocal image. (Units do not apply toward AA/AS degree.)

850 Speech for Dental Assistants (1.5) *One and one-half lecture hours per week.* Principles of oral communication: reasoning and proper use of evidence; constructive criticism. To help dental assisting students organize ideas and speak with clarity, directness, and accuracy.

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Technical Art and Graphics

167 FreeHand (1) (*Credit/No Credit or letter grade option.*) *Total of twelve lecture and twelve lab hours. Prerequisite: CIS 160 with a grade of C or higher or familiarity with the Macintosh computer.* Use and application of basic features of FreeHand drawing software. (CSU)

200 Graphic Macintosh (4) *Three lecture and three lab hours per week.* Macintosh basics; digital page makeup and illustration using QuarkXPress and Freehand software. Principles of typography and design taught concurrently with the software. (CSU)

201 Technical Illustration I (6) *Three lecture and nine lab hours per week. It is recommended that students enroll concurrently in TA&G 200 or 210.* Instruction in theory and studio drafting experience with multi-view visualization, sketching, and basic CAD to enable conversion of orthographic views to pictorial technical illustrations. Emphasizes inked line illustrations for technical publications. Extra supplies required. (CSU)

202 Technical Illustration II (6) *Three lecture and nine lab hours per week.* Study of systems of pictorial illustrations created from technical orthographic sources. Students develop a set of original illustrations

using varied rendering methods to compile a presentation portfolio. Extra supplies required. (CSU)

210 Typography (4) *Two lecture and six lab hours per week. Prerequisite: TA&G 200 or equivalent.* Anatomy of type, typographic measurement, specifying type, and copyfitting. Designing with type: choosing the correct voice; creating emphasis and interest; visual hierarchy; developing and using grids. Theory applied to practical typographic problems, working from concept through presentation. Emphasizes the creative problem-solving process. Extra supplies required. (CSU)

220 Graphic Design (4) *Two lecture and six lab hours per week. Recommended Preparation: TA&G 210.* Principles of design, typography, and symbolism. Stylized abstracted drawing, trademark, logo, and identity development. Evolution of a design; the graphic problem-solving process from concept through presentation. Comping techniques. Extra supplies required. (CSU)

300 Basic Reproduction Processes (2) *One lecture hour and three lab hours per week. Prerequisite: TA&G 201 or 202 or DRAF 201.* Introductory survey of processes of graphic reproduction, ranging from office convenience duplicating to engineering reprographics, and pre-press skills for commercial technical publications. Lab experience with basic photo offset lithography. Extra supplies required. (CSU)

310 Visualization Techniques in Industrial Design (4) *Two lecture and six lab hours per week. Prerequisite: TA&G 201 or DRAF 120 or 201.* Survey of the industrial design profession, including its history and the role of the corporate designer. Introduction to design sequence. Methods of concept marker renderings used in the development of product design. Studio experience in making rapid concept sketches and developing them into finished presentation drawings. Extra supplies required. (CSU)

352 Offset Production Techniques (4) *Two lecture and six lab hours per week. Prerequisite: TA&G 200 or equivalent.* Preparing digital artwork for offset printing. Extra supplies required. (CSU)

400 Advanced Projects (1) *Three lab hours per week. Prerequisite: completion of three semesters of TA&G curriculum.* Students initiate, develop, and complete substantial individual projects in consulta-

tion with and under the direction of the instructor. Emphasizes development of a marketable portfolio. (CSU)

641 Cooperative Education (1-4) (See first page of Description of Courses section.) (CSU)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Welding Technology

(Also see Machine Tool Technology and Manufacturing and Industrial Technology)

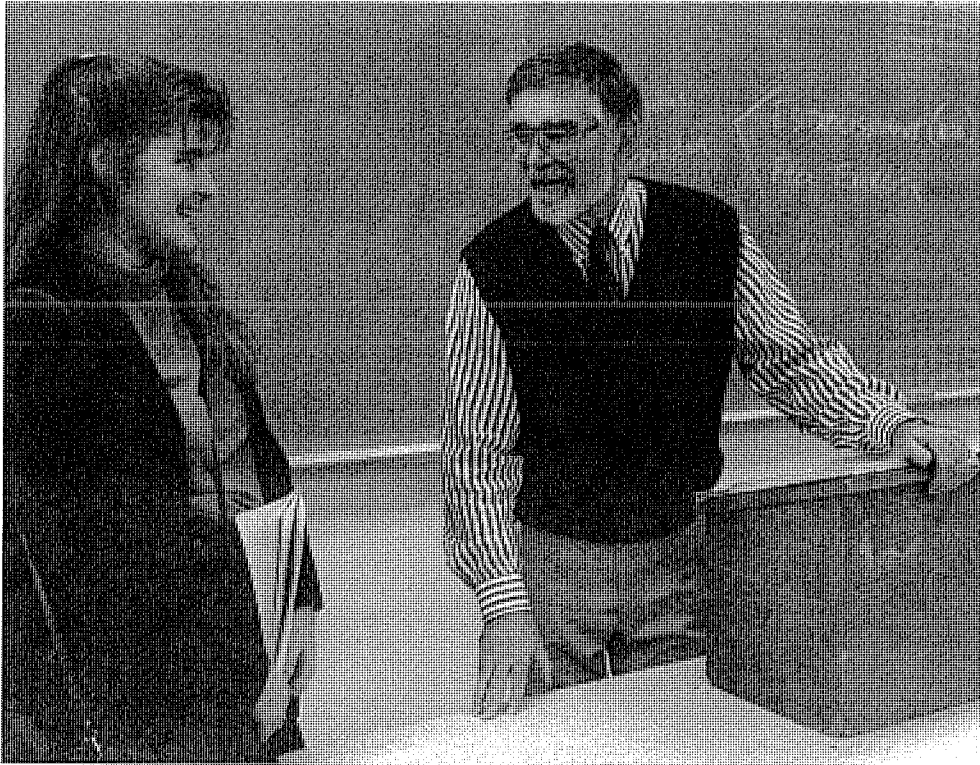
Extra supplies may be required in all Welding Technology courses.

110 Elementary Welding Theory I (4) *Four lecture hours per week. Corequisite: concurrent enrollment in WELD 111. Recommended Preparation: keyboarding or word processing.* Introduction to gas welding of ferrous and non-ferrous metals, brazing and soldering. Instruction on the theory of flamecutting; introduction to metallurgy and blueprint reading for welding. (CSU)

111 Elementary Welding Practice I (3) *Nine lab hours per week. Corequisite: concurrent enrollment in WELD 110.* Practical experience in gas and conventional arc welding of ferrous metals, brazing, and soldering. (CSU)

120 Elementary Welding Theory II (4) *Four lecture hours per week. Prerequisites: WELD 110/111. Corequisite: concurrent enrollment in WELD 121.* Introduction to conventional arc welding of steel and TIG (GTAW) welding of aluminum. Study of metallurgy and blueprint reading for welders. (CSU)

121 Elementary Welding Practice II (3) *Nine lab hours per week. Corequisite: concurrent enrollment in WELD 120.* Advanced experience in conventional arc welding of steel in flat, vertical, and overhead positions. Introduction to manual TIG (GTAW) welding of aluminum. Inspection of welded assemblies. (CSU)



The nature of politics generates a lively discussion between a student and political science professor Ken Kennedy.

210 Advanced Welding Theory I (4)
Four lecture hours per week. Prerequisites: WELD 120/121. Recommended Preparation: DRAF 120; MTT 200; MANU 100 or PHYS 100. Corequisite: concurrent enrollment in WELD 211. TIG (GTAW) and MIG (GMAW) welding of carbon steel, alloy steel, and stainless steel. Advanced problems in all phases of welding. Study in the theory of metallurgy and heat treating as applied to welding technology. (CSU)

211 Advanced Welding Practice I (5)
Fifteen lab hours per week plus one lab hour by arrangement per week. Corequisite: concurrent enrollment in WELD 210. Practical experience in TIG (GTAW), MIG (GMAW), and low-hydrogen arc welding with emphasis on steel, stainless steel, and aluminum. (CSU)

220 Advanced Welding Theory II (4)
Four lecture hours per week. Prerequisite: WELD 210/211. Corequisite: concurrent enrollment in WELD 221. Theory of MIG (GMAW), pulsed MIG (GMAW), and TIG (GTAW) welding, electron-beam welding, sub-arc welding, electro-slag/gas welding,

and pipe welding. Study of the A.W.S. Structural Code D1.1 and A.S.M.E. Boiler Code and Pressure Vessel Code Section IX. Study of the fundamentals of robotics, hazardous materials in welding, and welding symbols as they apply to blueprints, welding inspection, laser welding and inverter technology. (CSU)

221 Advanced Welding Practice II (5)
Fifteen lab hours per week plus one lab hour by arrangement per week. Corequisite: concurrent enrollment in WELD 220. Practical experience in the welding of exotic metals, flame spraying, and pulsed TIG (GTAW), pipe, and MIG (GMAW) welding. Practical experience in job estimation, production welding techniques, and maintenance welding techniques. Instruction in manipulative skills required in metal fabrication processes: hand and power shearing, punching, forming, mechanical fastening, and sheet metal layout. (CSU)

250 Fundamentals of Non-Destructive Testing (2) *Two lecture hours per week.* Introduction to nondestructive testing: types, methods, materials, costs, limitations, and personal requirements. (CSU)

300 Welding for Technology (2) *One lecture hour and three lab hours per week.* Introduction to welding for the non-welding major. Covers theory and practice of oxy-acetylene welding, bronze brazing, silver soldering, and conventional shielded metal arc, low-hydrogen shielded metal arc, and resistance welding. (CSU)

641 Cooperative Education (1-4) (See first page of Description of Courses section.) (CSU)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

700 TIG Welding Technology (4) *Two lecture and six lab hours per week.* Practical experience in corner, fillet, and butt welding of aluminum, steel, and stainless steel. Study of TIG (GTAW) welding of aluminum, steel, and stainless steel; basic metallurgy; and welding symbols as they apply to blueprints.

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Faculty

(Date of original appointment follows name.)

Acena, Albert A. (1966)

Dean, Social Science Division
B.A., Seattle University
M.A., Ph.D., University of Washington

Aguirre, Sylvia (1989)

Counselor
A.A., College of San Mateo
B.A., M.S., Hayward State University

Akinsete, Adrienne (1992)

Associate Professor, Business Administration
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Alunan, Juanita (1995)

Instructor, English
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Ambrose, Rick (1985)

Professor, Business Administration
B.A., Western Kentucky University
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Professor, Physics
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M.A., The Claremont Graduate School

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De Freitas, Louis (1966)

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M.S., Cornell University

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M.A., Ph.D., University of Missouri

Fark, Roland H. (1969)
Professor, Ecology, Forestry, Marine Natural History, Wildlife
B.A., B.S., M.A., Bowling Green State University

Faure, Emile L. (1970)
Professor, Mathematics
B.A., San Diego State University
M.A., Claremont Graduate School

Fiedler, John C. (1975)
Professor, English, Counselor
A.B., Kansas State Teachers College
M.A., University of Missouri
Ph.D., University of California, Berkeley

Fiori, Carolyn (1991)
Adaptive Computer Technology Specialist
B.A., Sacramento State University
M.A., San Francisco State University

Fisher, Anita (1969)
Professor, Psychology
B.A., University of Southern California
Ph.D., Stanford University

Frassetti, Gerald J. (1967)
Professor, English, International Student Advisor
B.A., St. Mary's College
M.A., San Francisco State University

Freeman, Ann (1985)
Professor, English, Italian
B.A., Smith College
M.A., University of Wisconsin
Ph.D., University of California, Berkeley

Freydoz, Margaret (1990)
Associate Professor, Aeronautics

Gamelin, Jacqueline (1979)
Professor, Business, Counselor
A.A., Pensacola Junior College
B.A., Pacific College
M.B.A., Golden Gate University

Garcia, Modesta (1987)
Counselor, Associate Professor, Career and Life Planning
B.A., Santa Clara University
Ed. M., Harvard University

Gershenson, Bernard M. (1984)
Professor, English
A.B., University of Illinois
M.A., University of Kentucky
M.A., San Francisco State University

Giniere, Ann (1981)
Professor, Cosmetology

Glen, William (1957)
Professor, Geology, Paleontology, Counselor
B.S., Brooklyn College
M.A., University of California, Berkeley
Ph.D., Union Graduate School

Gomes, Lyle (1984)
Associate Professor, Art, Photography
B.A., M.A., San Francisco State University

Gonzales, Andres A. (1987)
Professor, English
B.A., California State University, Long Beach
B.A., California State University, Dominguez Hills
M.A., Middlebury College
M.A., University of Chicago
M.Ed., University of Massachusetts

Griffin, Patricia (1990)
Vice President, Student Services
B.A., Ph.D., University of Michigan
M.S., Syracuse University

Gustavson, Charles F. (1966)
Professor, Music
A.B., M.A., San Francisco State University

Gutierrez, Martha (1990)
Counselor
A.A., San Francisco City College
B.A., San Francisco State University
M.A., University of San Francisco

Halualani, Jennie (1963)
Health Services
R.N., St. Francis Hospital School of Nursing, Honolulu
B.S.N.Ed., St. Mary College, Kansas
M.S., University of California, San Francisco

Hand, Linda (1993)
Assistant Professor, Geology
B.S., Boise State University
M.S., Texas A & M University

Harrison, Kenneth W. (1969)
Professor, Music
B.M., University of Southern California
M.A., San Francisco State College

Hasson, Robert L. (1984)
Associate Professor, Mathematics
B.A., University of California, Berkeley
M.S., Stanford University

Heyeck, Robin R. (1965)
Professor, English
A.B., A.M., Stanford University

Hogan, John H. (1981)
Associate Professor, Adapted Physical Education
B.S., M.A., San Jose State University

Hom, Melvin (1991)
Associate Professor, Mathematics
B.A., B.S., M.A., M.A., San Francisco State University

Innis, James E. (1967)
Professor, Health Science
A.B., M.A., University of Northern Colorado

Isaeff, Tatiana (1991)
Associate Professor, Nursing
B.S., M.S., University of California, San Francisco
Ed.D., University of San Francisco

Janatpour, Mohsen (1983)
Professor, Astronomy, Mathematics, Physics
B.A., M.S., San Jose State University

Janssen, William A. (1965)
Professor, Business
A.B., M.A., San Jose State University

Jeffers, Mary Lloyd (1963)
Professor, Political Science
A.B., M.A., Tennessee State University

Johnson, Joseph R. (1979)
Professor, Welding
A.S., College of San Mateo

Joslin, Rex J. (1964)
Professor, Biology
B.S., Wisconsin State College
M.S., University of Illinois

Kelly, Shirley J. (1992)
Vice President, Instruction
B.A., Mills College
M.S. University of San Francisco
Ed.D., University of San Francisco

Kennedy, Kenneth D. (1967)
Professor, Political Science
A.A., College of San Mateo
B.A., M.A., San Francisco State University

Kennedy, Vance A. (1976)
Professor, Business
A.A., San Jose City College
B.S., M.B.A., San Jose State University

Kimball, Michael B. (1968)
Professor, English
A.B., Stanford University
M.A., San Francisco State University

Kirk, John R. (1970)
Professor, Economics
B.A., University of California, Berkeley
M.A., San Jose State University

Kirsch, Theodore (1984)
Professor, Electronics
B.A., San Jose State University
M.A., San Francisco State University
Ed.D., Oregon State University

Komas, Robert (1991)
Associate Professor, Mathematics
B.A., University of California, San Diego
M.A., San Jose State University

Kowerski, Robert C. (1980)
Professor, Chemistry
B.S., Illinois Institute of Technology
Ph.D., Stanford University

Kramm, George (1994)
Assistant Professor, Speech
B.A., M.A., San Diego State University

Kroencke, Mikael (1987)
Associate Professor, Engineering
B.S., M.S., University of California, Davis
M.A., San Francisco State University

Laderman, David (1995)
Assistant Professor, Film
B.A., California State University, Northridge
M.A., Emory University
M.A., San Francisco State University

- Landsberger, Peter J.** (1992)
President
A.A., Santa Monica City College
B.A., University of California, Berkeley
J.D., University of California, Berkeley (Boalt Hall)
- Leddy, Matthew** (1991)
Associate Professor, Horticulture
A.A., Skyline College
B.A., University of California, Santa Cruz
M.A., San Francisco State University
- Lehmann, J. Jay** (1989)
Associate Professor, Mathematics
B.S., University of Illinois
M.S., Claremont Graduate School
- Leroi, Frank B.** (1968)
Professor, Economics
B.A., University of California, Los Angeles
M.A., San Jose State University
- Li, Yaping** (1995)
Assistant Professor, Speech
B.A., Shandong University, People's Republic of China
M.A., Indiana University
- MacDonald, Lorne** (1968)
Professor, Electronics, Engineering
B.S., Pacific State University
- Mahood, Marcia** (1960)
Counseling Services
B.A., M.A., Michigan State University
M.S., California State University, Hayward
- Mangan, George A.** (1982)
Professor, Broadcast and Electronic Media, Counselor
A.A., College of San Mateo
B.A., California State University, Chico
M.A., Macquarie University, Sydney, Australia
- Markus, Jack** (1988)
Associate Professor, Aeronautics
A.A. College of San Mateo
B.V.E. San Francisco State
- Marron, Jamie** (1991)
Associate Professor, Reading
B.A., M.A., University of Illinois
M.A., University of California, Berkeley
M.F.A., Mills College
Ed.D., University of Southern California
- Marshall, R. Galen** (1964)
Professor, Music
A.B., M.A., San Francisco State University
- Martin, Theresa** (1995)
Assistant Professor, Biology
B.A., University of California, Santa Barbara
M.S., University of California, Davis
- Martinez, Thomas A.** (1976)
Professor, Physical Education, Athletics
B.A., San Francisco State University
M.A., Azusa Pacific College, California
- Maule, Bruce** (1990)
Associate Professor, Business
B.S.C., Santa Clara University
M.B.A., San Jose State University
- McAteer, Jane** (1987)
Associate Professor, Nursing
B.S.N., Georgetown University
M.N., University of California, Los Angeles
- McConnell-Tuite, Milla L.** (1987)
Professor, English
B.A., M.A., San Francisco State University
- McCracken, Ruth** (1980)
Coordinator, Nursing Department
B.S.N., Michigan State University
M.S.N.Ed., Wayne State University
- McCue, Mary J.** (1955)
Professor, English
B.A., Marygrove College
M.A., University of Michigan
- McGlasson, Pamela N.** (1991)
Associate Professor, Business Administration
B.S., Georgia College
M.Ed., Armstrong-Savannah State College
- Mellor, Sandra L.** (1974)
Dean, Corporate and Community Education
B.A., M.A., San Jose State University
- Miller, Allan** (1990)
Professor, Computer and Information Science
B.A., University of California, Berkeley
M.A., Mills College
M.A., University of California, Riverside
Ph.D., University of California, Riverside
- Monroe, Howard C.** (1961)
Professor, Anthropology, Botany, Marine Biology
B.S., University of Toledo
M.A., University of California, Los Angeles
- Morehouse, Steven N.** (1977)
Dean, Counseling/Advising and Matriculation
A.A., College of San Mateo
B.A., San Francisco State University
M.S., California State University, Hayward
- Morley, Judy** (1987)
Professor, Art
B.A., University of California, Berkeley
M.F.A., San Jose State University
- Motoyama, Catherine T.** (1991)
Associate Professor, Speech
B.A., University of Hawaii
M.A., Ph.D., University of Washington
- Mullen, John F.** (1966)
Dean, Admissions & Records
B.S., Stanford University
M.A., University of California, Riverside
- Multhaup, Ernest L.** (1964)
Professor, Engineering, Counselor
B.S., M.S., University of North Dakota
- Multhaup, Jean B.** (1973)
Professor, Dental Assisting
A.A., College of San Mateo
B.V.E., San Jose State University
- Musgrave, Diane W.** (1970)
Professor, English, German
A.B., A.M., Stanford University
M.A., San Francisco State University
- Nakata, Rory** (1990)
Associate Professor, Art
B.A., San Francisco State University
M.A., Sacramento State University
- Norman, Colette J.** (1974)
Librarian
B.A., Southern University, Baton Rouge
M.A., San Jose State University
- Nurre, Rosemary A.** (1993)
Associate Professor, Business Administration
B.S., CSU, Chico
M.B.A., University of Santa Clara
- O'Connell, Kathryn** (1985)
Associate Professor, Political Science
B.A., University of Minnesota
M.A., San Francisco State University
- O'Mahony, Rosalie M.** (1965)
Professor, Mathematics
B.S., Loyola University
M.S., University of Notre Dame
Ph.D., University of Southern California
- Orcutt, April** (1989)
Professor, Broadcast and Electronic Media
B.A., University of California, Irvine
M.A., California State University, Fullerton
- Orozco, Adrian** (1969)
Coordinator, EOPS/Multicultural Center
S.T.B., St. Alexis College, Rome, Italy
M.Ed., Loyola University, Chicago
- Owen, William H.** (1963)
Professor, Manufacturing and Industrial Technology
A.B., M.A., San Francisco State University
- Owens, Larry** (1990)
Head Football Coach
B.S., California State University, Fullerton
M.A., St. Mary's College
- Ozsoptomonyan, Ardash** (1968)
Dean, Math/Science Division
B.S., Robert College, Istanbul
M.S., University of California, Los Angeles
Ph.D., University of California, Berkeley
- Paoli, Patricia J.** (1979)
Professor, Speech
A.B., University of California, Berkeley
M.A., California State University, Hayward
- Paolini, Nancy M.** (1988)
Professor, Reading
B.A., California State University, Sacramento
M.S.Ed., University of Southern California
- Paparelli, Marie T.** (1989)
Learning Disabilities Specialist
A.S., Corning Community College
B.S., Elmira College
M.S., California State University, Long Beach
- Petit, Susan Y.** (1968)
Professor, English, French
B.A., Knox College
M.A., Purdue University
M.A., College of Notre Dame
- Petromilli, James** (1973)
Professor, Electronics
A.A., College of San Mateo
B.A., M.A., San Francisco State University
- Phipps, Linda M.** (1985)
Professor, Mathematics
B.A., Barnard College
M.A., Columbia University
- Piper, Louise** (1990)
Child Development Services Coordinator
B.A., University of Michigan
M.A., San Francisco State University

- Piserchio, Rosemary** (1973)
Professor, Business, Counselor
A.A., Chaffey College
B.A., M.A., San Francisco State University
M.S., California State University, Hayward
- Polansky, Stephen H.** (1968)
Professor, Political Science
B.A., Princeton University
J.D., Harvard Law School
- Pounds, Robert D.** (1970)
Professor, Physical Education
B.S., University of California, Los Angeles
- Ramsey, Carolyn O.** (1974)
Professor, Career and Life Planning, Counselor
B.A., M.S., San Francisco State University
- Remitz, Edward F.** (1989)
Assistant Professor, Journalism
B.A., San Francisco State University
- Reynolds, Roberta M.** (1985)
Professor, English
A.A., College of San Mateo
B.A., College of Notre Dame
M.A., D.A., Ph.D., University of Oregon
- Roach, James** (1970)
Professor, Psychology
B.A., M.A., San Francisco State University
- Robinson, David G.** (1985)
Professor, Mathematics, Meteorology
B.S., M.S., San Jose State University
- Rock, Jo Ann C.** (1964)
Professor, Cooperative Education
B.S., Pacific University
M.A., San Francisco State University
- Rundberg, William B.** (1967)
Professor, Mathematics
B.A., San Jose State University
M.A., Bowdoin College
- Ryan, Janis** (1994)
Assistant Professor, Nursing
A.A., Skyline College
B.S., M.S., University of San Francisco
- Schoenstein, Edward G.** (1967)
Professor, Technical Art/Graphics
B.A., M.A., California State University, Chico
- Scholer, Linda K.** (1984)
Professor, English
B.A., North Central College
M.Ed., University of Illinois
- Schulze, Frances** (1990)
Associate Professor, English
B.A., M.A., San Francisco State University
- Searle, John B.** (1973)
Professor, Chemistry, Biology
B.S., Ph.D., Bristol University
- Seubert, Edwin A.** (1980)
Professor, Technical Art/Graphics
A.A., College of San Mateo
- Sewart, John J.** (1991)
Dean, Articulation and Research
B.A., University of California, Berkeley
M.A., Ph.D., University of California, Davis
- Silva, Caroline R.** (1962)
Professor, Physical Education, Academic Athletic
Advisor
A.B., M.A., San Francisco State University
- Singh, Balbir** (1964)
Professor, Mathematics
B.S., St. John's College, Agra University, India
M.A., Stanford University
M.B.A., LL.M. Golden Gate University
Ph.D., University of Southern California
- Smith, Elizabeth M.** (1988)
Professor, Nursing
B.S.N., University of Missouri
M.S.N., Yale University
- Smith, Robert W.** (1965)
Professor, Mathematics, Humanities
B.C.E., Clarkson College of Technology
M.E., University of California, Berkeley
- Sonner, Grace Y.** (1970)
Dean, Business/Creative Arts Division
B.A., San Jose University
M.S., Texas Woman's University
- Stack, Dennis M.** (1968)
Professor, Drafting
A.S., College of San Mateo
B.S., California State Polytechnic University
M.A., San Jose State University
- Statler, Richard G.** (1972)
Professor, Physical Education, Health Science
B.S., M.S., California State University, Hayward
- Steele, Kathleen** (1991)
Associate Professor, English
B.A., M.A., University of Michigan
- Still, Mark S.** (1989)
Professor, History
B.A., M.A., University of Arizona
Ph.D., Claremont Graduate School
- Stock, Nancy J.** (1974)
Professor, Cosmetology
B.S., University of San Francisco
- Stocker, Angela R.** (1964)
Professor, Social Science, Counselor
B.A., Miami University
M.A., San Francisco State University
M.A./M.C.P., College of Notre Dame
- Stringari, Lawrence T.** (1969)
Professor, Psychology, Psychological Services
B.A., M.A., San Francisco State University
- Svanevik, Michael** (1969)
Professor, History
B.S., M.A., University of San Francisco
- Thur, Jack** (1981)
Professor, Physical Education
B.S., Michigan State University
M.A., Azusa Pacific College
- Tilmann, Martha** (1989)
Associate Professor, Computer and Information
Science
B.F.A., M.S., Michigan State University
- Todesco, Lora B.** (1974)
Professor, Business
B.A., San Jose State University
M.B.A., San Francisco State University
- Tollefson, Patricia A.** (1984)
Professor, English
B.A., M.A., San Francisco State University
M.A., University of California, Davis
M.A., John F. Kennedy University
- Tonini, Carlene** (1990)
Associate Professor, Biology
B.S., University of California, Davis
M.S., California Polytechnic State University, San
Luis Obispo
- Turner, Ruth** (1990)
EOPS Counselor
B.A., Wichita State University
M.S., San Francisco State University
- Uchida, Barbara** (1990)
Associate Professor, Physics
B.A., University of California, Berkeley
M.S., University of California, San Diego
- Ushaw, D. Aisha** (1975)
Counselor/Transfer Center
B.S., Central State University
M.Ed., University of Cincinnati
- Upton, James** (1968)
Professor, Mathematics, Humanities
B.A., M.A., Gonzaga University
M.S., Seattle University
- Weintraub, Alan L.** (1962)
Professor, Geography
B.S., De Paul University, Ill.
M.S., University of Chicago
Ph.D., Michigan State University
- Weissman, Andrew** (1984)
Professor, Manufacturing and Industrial
Technology
A.E.E.T., Heald Institute of Technology
- West, David** (1973)
Professor, Sociology
B.A., San Francisco State University
M.S.W., University of California, Berkeley
M.A., Ph.D., Stanford University
- Williams, Agnes** (1969)
Professor, Cosmetology
- Williamson, Stuart** (1965)
Professor, Biology
A.B., Harvard University
M.A., San Francisco State University
- Willis, Janice M.** (1977)
Professor, Business
B.S., Pennsylvania State University
M.A., San Francisco State University
- Wills, Carol R. T.** (1982)
Professor, Reading
B.A., M.A., San Francisco State University
- Yoshimura, Yoneo** (1978)
Counselor
B.A., M.S., San Francisco State University
- Young, Frank H.** (1969)
Professor, Mathematics
A.B., M.A., San Francisco State University
Ed.D., University of Southern California
- Zimmerman, Paul C.** (1967)
Professor, Architecture
B.Arch, M.Arch, University of California,
Berkeley
A.I.A.

Emeriti

(Date of retirement follows name.)

- Roland K. Abercrombie** (1963)
Business
- Marvin Alexander** (1975)
Chairperson, Social Sciences Division
- Alvin A. Alexandre** (1988)
English, Journalism
- David H. Allende** (1987)
Art
- Edgar H. Andrews** (1987)
History, Humanities
- Garlan Andrews** (1989)
Music
- Marian R. Anenson** (1984)
Nursing
- George Angerbauer** (1984)
Electronics Technology, Counselor
- Marlene C. Arnold** (1994)
Nursing
- Raymond I. Balsley** (1980)
Physical Education
- Leo N. Bardes** (1992)
Dean, Creative Arts Division
- Dr. Rex J. Bartges** (1977)
Biology
- Paul Beale** (1985)
Accounting
- Donald E. Beaty** (1991)
Physics
- Robert Bennett** (1994)
Counselor
- Barbara Jean Berensmeier** (1990)
Physical Education
- John J. Berglund** (1984)
Aeronautics
- Daniel A. Berry** (1991)
Business Administration
- John B. Bestall** (1978)
Engineering
- Rose Marie P. Beuttler** (1989)
French
- Lou S. Bitton** (1993)
Electronics
- Jeanne Blanchette** (1977)
Nursing
- George A. Blitz** (1989)
Biology, Landscape Design
- Dale W. Blust** (1987)
Aeronautics
- Kenneth E. Blust** (1982)
Aeronautics
- Don Bowman** (1990)
Interior Design
- Carol E. Boyd** (1963)
Home Economics
- George E. Bramlett** (1993)
Dean, Technology Division
- Robert A. Brauns** (1979)
Play Production
- Leonora Y. Brem** (1960)
Health Education
- Michael Brusin** (1995)
History, Economics
- Dr. Allan R. Brown** (1989)
Vice President, Student Services
- Elizabeth Burdash** (1995)
Psychology
- Virginia Burton** (1981)
Physical Education
- Lorraine Bush** (1975)
Cosmetology
- Raymonde M. Cadol** (1979)
French
- D. Bruce Cameron** (1993)
English, Film
- Albert Camps** (1995)
Electronics
- Stuart R. Carter** (1983)
Physical Education
- Jewell Casstevens** (1982)
Cosmetology
- Dr. Donald F. Cate** (1990)
Political Science
- Michael Chriss** (1993)
Astronomy, Humanities
- Amerigo T. Ciani** (1975)
Librarian
- Fred J. Clark** (1974)
Physics
- Roger W. C. Clemens** (1981)
Life Science
- J. Kyle Clinkscapes** (1981)
Chemistry, Counselor
- Dr. Adrian Cohn** (1986)
English
- Dr. Jean M. Cons** (1993)
Anatomy, Physiology
- Dr. Barton Cooper** (1985)
Philosophy
- Dr. Henry Cordes** (1988)
German
- Robert N. Coulson** (1984)
Machine Tool Technology
- Douglas B. Crawford** (1993)
Mathematics
- Richard L. Crest** (1982)
Music
- John A. Cron** (1992)
Business
- Dr. Dorothy J. Crouch** (1983)
Biology
- Terence B. Curren** (1990)
Zoology, Physical Anthropology
- Dr. George S. Dehnel** (1987)
Biology, Health Science
- Charles M. Devonshire** (1983)
Psychology
- John B. Dooley** (1979)
Librarian
- Dr. James S. Edmundson** (1988)
French
- Dr. Frank M. Fahey** (1985)
History
- Dr. Ward J. Fellows** (1980)
Philosophy
- Dr. Maurice J. Fitzgerald** (1993)
English
- Aline Fountain** (1983)
Director of Counseling Services
- Wilson P. Fraker** (1988)
Business
- Donald V. Galindo** (1987)
Art
- Eric Gattmann** (1991)
Education, Emeritus Institute
- Dr. Thomas W. George** (1984)
Business
- Ellen Ross Gibson** (1990)
Photography, Art
- Cliff G. Giffin** (1986)
Director, Physical Education/
Athletics Division
- Dr. John M. Gill** (1987)
English
- John H. Goehler** (1982)
Political Science
- William A. Goss** (1974)
History, Counselor
- Gilbert B. Gossett** (1985)
Dean of Instruction
- Alexander Graham** (1990)
Horticulture
- Dr. Karl Grossenbacher** (1976)
Biology
- Anne M. Grubbs** (1974)
Chairperson, Health Occupations Division
- Dr. H. Sanford Gum** (1984)
Drafting
- Joe C. Hagerty** (1983)
Director, Health and Service Careers Division
- John Hancock** (1995)
Music
- Jane E. Hanigan** (1984)
English, Re-Entry Program
- Dr. Merrill C. Hansen** (1980)
Speech
- Dr. William Harriman** (1983)
English
- Edward M. Harris** (1985)
Mathematics
- Richard V. Harris** (1992)
Physical Education
- Louise B. Hazelton** (1981)
English, History
- Carol Rhodabarger Heitz** (1985)
Career and Personal Development, Counselor
- Mary M. Herman** (1989)
Speech Pathologist
- Dorothy Hills** (1990)
Coordinator, Child Care Center
- Yolande S. Hilpisch** (1977)
College Nurse
- Woodson F. Hocker** (1972)
Spanish
- Paul C. Holmes** (1987)
English
- Roy H. Holmgren** (1989)
Mathematics

- Dr. Cecilia A. Hopkins** (1986)
Director, Business Division
- Robert S. Howe** (1990)
Career and Life Planning
- Herbert H. Hudson** (1979)
Physical Education, Counselor
- Margreta S. Husted** (1976)
Chemistry
- Joeann J. Ingraham** (1986)
Physical Education
- Amy G. Ireson** (1985)
Consumer Arts and Science,
Counselor
- Wallace H. Jorgenson** (1988)
Aeronautics
- Dr. John E. Karl, Jr.** (1993)
Anatomy, Physiology
- Dr. Walter M. Kaufmann**
(1990)
Sociology, Psychology
- Robert Kellejian** (1992)
Electronics
- Robert M. Keller** (1994)
Chemistry
- Dr. Noel W. Keys** (1995)
Psychological Services
- Edward A. Kusich** (1977)
Engineering, Mathematics
- Eva M. Landmann** (1987)
Nursing
- Dr. Rudolph M. Lapp** (1983)
History
- Walter J. Leach, Jr.** (1985)
Psychology, Sociology
- Anita J. Lehman** (1983)
English
- Dr. Doris H. Linder** (1989)
History
- Arlys K. Lokken** (1988)
Nursing
- Raymond Lorenzato** (1984)
Art
- Chauncey J. Martin** (1979)
Machine Tool, Welding
Technology
- Jeanette J. Mathers** (1979)
Speech, English
- Dr. Joseph M. McDonough**
(1995)
Psychology
- Virginia A. McMillin** (1984)
Nursing
- Valdemer A. Mendenhall**
(1982)
Aeronautics
- Robert E. Michael** (1986)
Business Administration,
Counselor
- Douglas B. Montgomery** (1989)
Broadcasting Arts
- Dr. John A. Montgomery**
(1977)
Business Administration
- Philip D. Morse** (1981)
Director, Special Services
- Robert C. Newell** (1992)
Electronics
- John L. Noce** (1992)
Physical Education
- Daniel C. Odum** (1989)
Broadcasting Arts
- Robert A. Olson** (1988)
Speech
- Peter H. Owens** (1994)
Chemistry
- Robert F. Paresa** (1993)
Administration of Justice
- Zoia V. Petelin** (1974)
Cosmetology
- Betty C. Pex** (1990)
English
- Richard S. Phipps** (1984)
Political Science, Career and
Personal Development,
Counselor
- Wilson G. Pinney** (1986)
Director, Language Arts
- Donald T. Porter** (1992)
Philosophy, Humanities
- Dolores I. Price** (1985)
Physical Education
- Joe A. Price** (1994)
Art
- Dr. Philip G. Prindle** (1992)
Speech
- Harry W. Prochaska** (1977)
Art
- Jean Pumphrey** (1993)
English
- Theodore L. Rankin** (1987)
Administration of Justice
- Vincent P. Rascon** (1988)
Art
- Dr. Edward H. Rategan** (1989)
Computer and Information
Science
- Elizabeth K. Rempel** (1977)
Art
- Kern Richmond** (1995)
Political Science, Counselor
- Dr. William L. Roach** (1963)
Psychology
- Richard W. Rohrbacher** (1987)
Speech, English, Broadcasting
Arts
- Samuel S. Rolph** (1979)
Play Production
- Rose, Jacquelyn** (1993)
Coordinator of Services for the
Physically Disabled
- Dr. Hugh Ross** (1991)
Accounting
- Robert D. Rush** (1995)
Physical Education
- Dr. Rosa I. Sausjord** (1983)
Spanish
- David Savidge** (1983)
English
- Dr. Lloyd O. Saxton** (1987)
Psychology
- Edwin A. Schwartz** (1993)
Psychology
- Stanley R. Scott** (1988)
Drafting Technology
- Dr. Robert L. Shapiro** (1983)
Electronics Technology
- Dr. Francis A. Smart** (1975)
Business Administration
- Win Smith** (1989)
Coordinator, Media Center
- Winifred P. Stetson** (1978)
Business, Counselor
- Mildred H. Stickney** (1968)
Business
- Russell M. Stoker** (1979)
Psychology
- Daniel Sullivan** (1985)
Business
- Leah Tarleton** (1994)
Health Services
- Ruth R. Teel** (1975)
English
- Allen Tracy** (1982)
Chemistry
- Ronald R. Trowse** (1993)
English
- John Turner** (1985)
English
- Carl A. Wagner** (1980)
History, Political Science,
Permanent Resident Immigrant
Student Advisor
- Duane A. Wakeham** (1986)
Art
- John D. Walsh** (1979)
Administration of Justice
- Herbert R. Warne** (1983)
Director of Admissions and
Records
- Barlow Weaver** (1987)
Librarian
- Marjorie M. Wheeler** (1974)
Early Childhood Education
- David D. White** (1980)
English
- Gladys L. White** (1960)
Business
- John C. Williams** (1992)
Biology
- Larry R. Williams** (1993)
Dean, Language Arts Division
- Richard A. Williamson** (1991)
English, Film
- Alice P. Wilson** (1977)
English
- Dr. Irving M. Witt** (1993)
Sociology
- Betty J. Wittwer** (1990)
Business
- Bernard F. Woods** (1979)
Business Administration
- William H. Zempel** (1990)
Meteorology, Physics
- Zones, Christe P.** (1992)
Geology

Campus Map

College of San Mateo
 1700 W. Hillsdale Boulevard
 San Mateo, CA 94402-3784
 (415) 574-6161

PARKING BY PERMIT ONLY DURING CLASS HOURS
 Obtain permits in College Security Office, Bldg. 5.

STUDENT PARKING: Lots 1, 2, 2A*, 3*, 4*, 8*, 9, 10, 10A, 11*, 12*, 12A*, 14, 15, 15A, 16, 17, 18, 20*, 21
 * Evening Hours Only (Except as indicated on posted signs)

STAFF PARKING: Lots 2A, 3A, 3B, 4, 5, 6, 7, 8, 11, 12, 12A, 13, 17, 19, 20, 20A

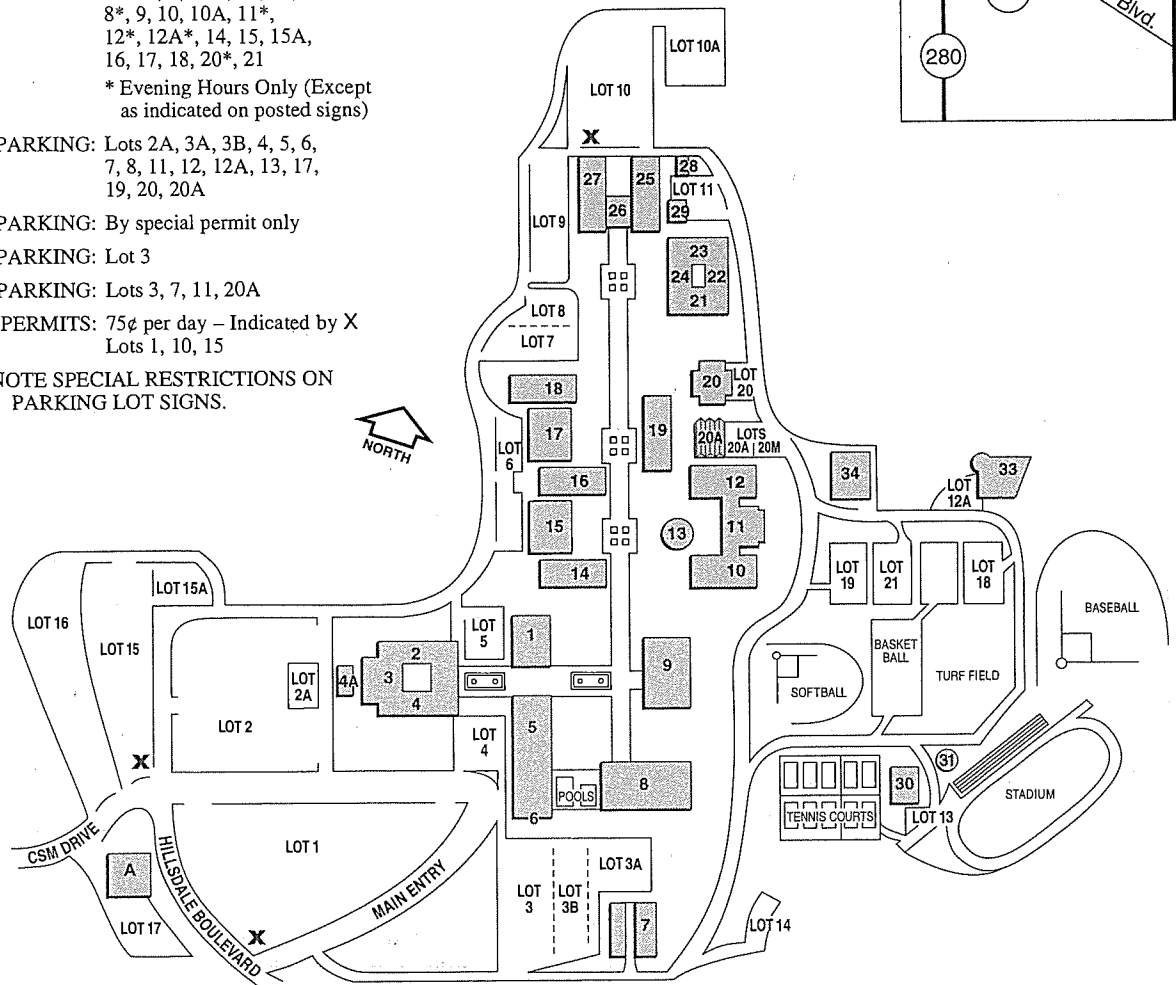
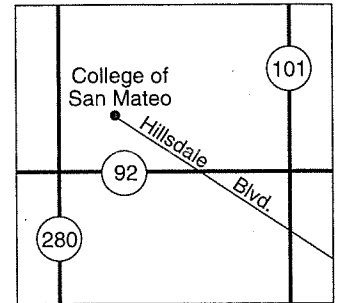
HANDICAPPED PARKING: By special permit only

VISITOR PARKING: Lot 3

MOTORCYCLE PARKING: Lots 3, 7, 11, 20A

ONE-DAY PERMITS: 75¢ per day – Indicated by X
 Lots 1, 10, 15

PLEASE NOTE SPECIAL RESTRICTIONS ON PARKING LOT SIGNS.



BLDG.

1. Administration
2. Music
3. Theater, Broadcasting Arts
4. Art
- 4A. Ceramics/Sculpture
5. Student Center
 Bookstore
 Cafeteria
 Café International
 Career Development Center
 Cooperative Education
 Student Employment
 College Security Office
6. Museum
7. Maintenance

BLDG.

8. Gymnasium
9. KCSM-TV/FM
10. Life Science
11. Science Lecture
12. Physical Science
13. Planetarium
14. South Hall
15. Faculty Offices
16. Central Hall
17. Faculty Offices
18. North Hall
19. Engineering, Electronics
20. EOPS, Multicultural Center,
 Horticulture
- 20A. Horticulture Greenhouses

BLDG.

21. Cosmetology
22. Dental Assisting
23. Nursing Lab, Public Safety
24. Locker Rooms
25. Aeronautics
26. Technical Lecture
27. Technical Training
28. Test Cell
29. Canteen
30. Team House
31. Ticket Booth
33. Lazarus Child Development Center
 A. District Administrative Offices
 3401 CSM Drive
34. Temporary Library

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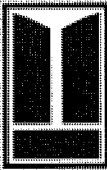
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