

College of San Mateo

1998-99 Catalog

CollegeSource

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COLLEGE^{of} SAN MATEO

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College of San Mateo is accredited by the Accrediting Commission for Community and Junior Colleges of the Western Association of Schools and Colleges, (3402 Mendocino Avenue, Santa Rosa, CA 95403 (707) 569-9177), an institutional accrediting body recognized by the Commission on Recognition of Postsecondary Accreditation and the U.S. Department of Education.

Peter J. Landsberger
President, College of San Mateo

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Community College District

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About the Cover

"Tin Wall"
1996 - Bodie, CA

This catalog cover features a color photo taken by Lynn Weed. A photography student at College of San Mateo since 1991, Lynn has honed her skills under the tutelage of CSM's photography department.

Calendar of Important Dates

Summer Intersession 1998

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

Registration See Schedule of Classes

June 15 Classes begin

July 3 Independence Day Holiday

July 6 Last day to petition for Summer AA/AS degree or certificate

July 24 Summer Intersession six-week classes close

August 7 Summer Intersession eight-week classes close

Fall Semester 1998

Approximately April 17 Applications available

Placement Tests for Fall Semester 1998 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 19 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 credit/refund

September 5 & 6 Declared recess

September 7 Labor Day Holiday

September 11 Last day to drop semester-length classes without appearing on student record

September 25 Last day to declare CR/NC option for designated courses

October 1 Last day to file application for admission to the International Student (F-1 visa) Program for Spring 1999

October 2 Last day to apply for Fall AA/AS degree or certificate

November 11 Veterans' Day Holiday

November 17 Last day to withdraw from a semester-length class with assurance of a "W" grade

November 25 Declared recess for Evening classes

November 26-29 Thanksgiving recess

Registration for continuing students for Spring 1999
See Schedule of Classes for dates, times and places

December 12-18 Final examinations (day, evening and Saturday classes)

December 18-January 19 Inter-Semester recess

Spring Semester 1999

Approximately October 16 Applications available

Placement Tests for Spring Semester 1999
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 18 Martin Luther King Holiday

January 20 Day and evening classes begin

February 2 Last day to add semester-length classes

February 2 Last day to drop semester-length classes with eligibility for partial credit/refund

February 12 Lincoln Day Holiday

February 13 & 14 Declared recess

February 15 Washington Day Holiday

February 16 Last day to drop semester-length classes without appearing on student record

February 19 Last day to apply for AA/AS degree or certificate

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

March 29-April 4 Spring recess

April 15 Last day to file application for admission to the International Student (F-1 visa) Program for Fall 1999

April 29 Last day to withdraw from a semester-length class with assurance of a "W" grade

Placement Tests for Fall Semester 1999
See Schedule of Classes for dates, times and places

Registration for continuing students for Summer 1999 and Fall 1999 See Schedule of Classes for dates, times and places

May 17-23 Final examinations (evening and Saturday classes)

May 24 Professional Growth Day - no day or evening classes

May 29 & 30 Declared recess

May 31 Memorial Day Holiday

May 25-June 2 Final examinations (day classes)

June 2 Commencement

Summer 1999 (Tentative)

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

Registration See Schedule of Classes

June 21 Classes begin

July 3 Declared recess

July 5 Independence Day Holiday

July 9 Last day to petition for Summer AA/AS degree or certificate

July 30 Summer six-week classes close

August 13 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. Dille

Dean, Social Science

Albert A. Acena

Dean, Technology

Michael Claire

STUDENT SERVICES

Dean of Admissions and Records

John F. Mullen

Dean of Articulation and Research

John J. Sewart

Dean of Counseling/Advising and Matriculation

David A. White

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 and two complexes: one which houses dental assisting, cosmetology and 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 accredited by the Accrediting Commission for Community and Junior Colleges of the Western Association of Schools and Colleges, (3402 Mendocino Avenue, Santa Rosa, CA 95403, 707/569-9177), an institutional accrediting body recognized by the Commission on Recognition of Postsecondary Accreditation and the U.S. Department of 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 offers approved instruction to veterans, service members, dependents and survivors of veterans and to other eligible persons, and is authorized by the Department of Veterans Affairs 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 1606 (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 Veteran's Assistant in the Office of Admissions and Records (Building 1, 2nd floor) to apply for benefits.

Honorably discharged veterans with at least eighteen months of active military service are eligible for educational benefits for a period of ten years following discharge. Benefits are also available to members of the active reserve who pursue approved college studies.

To initiate benefit payments, an eligible student must request that certification of

enrollment be sent to the Department of Veterans Affairs. See the Veterans Assistant in the Office of Admissions and Records. (650/358-6852). Those who have previously attended college must file official copies of all college transcripts with the Veterans Assistant.

College policy regarding Academic Probation (explained on page 31) applies to all students. Veteran students placed on Academic Probation for failure to maintain a 2.0 grade point average must improve their GPA within the following two semesters or the College is required to report a termination of veterans benefits due to unsatisfactory academic progress (as defined by the Department of Veterans Affairs). More information is available from the Veteran's 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 340-2700.

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

An unofficial computer printout of a student's record reflecting courses taken during or after the Summer 1981 intersession 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.

College Policies

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 Sharon Bartels, Health Services coordinator, Health Center, Building 1, Room 226 (574-6396).

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 and 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 Vice President for Student Services, Building 1, Room 273.
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 the Office of the Vice President, Student Services, Administration Building, Room 273 (574-6118).

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 del Vice Presidente para los Servicios de Estudiantes, que se encuentra en el centro administrativo del colegio, edificio n° 1 oficina n° 273, al teléfono 574-6118.

Conforme a las leyes en los títulos citados anteriormente, se estudiará cada reclamación y a todas las personas a quienes concierne 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 itinatahdana 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 nagreklamo ng paglabag sa Title VI ng 1964 Civil Rights Act at Sec. 504 ng Rehabilitation Act of 1973 ay dapat kontakin ang Office of Vice President, Student Services. Gusaling Administrasyon. Silid 273. Telephone 574-6118.

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 reklamo pang-Title VI at Title IX, at iuulat sa Lupong 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。 Office of the Vice President, Student Services Administration Building, Room 273 電話：650-574-6118.

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 (FERPA) affords students certain rights with respect to their education records. These rights include:

1. **The right to inspect and review the student's education records within 45 days of the day the College receives a request for access.** Students should submit to the registrar, dean, head of the academic department, or other appropriate official, written requests that identify the record(s) they wish to inspect. The College official will make arrangements for access and notify the student of the time and place where the records may be inspected. If the records are not maintained by the College official to whom the request was submitted, that official shall advise the student of the correct official to whom the request should be addressed.

2. **The right to request the amendment of the student's education records that the student believes are inaccurate or misleading.** Students may ask the College to amend a record that they believe is inaccurate or misleading. They should write the College official responsible for the record, clearly identify the part of the record they want changed, and specify why it is inaccurate or misleading. If the College decides not to amend the record as requested by the student, the College will notify the student of the decision and advise the student of his or her right to a hearing regarding the request for amendment. Additional information regarding the hearing procedures will be provided to the student when notified of the right to a hearing.

3. **The right to consent to disclosures of personally identifiable information contained in the student's education records,** except to the extent that FERPA authorizes disclosure without consent. One exception, which permits disclosure without consent, is disclosure to school officials with legitimate educational interests. A school official is a person employed by the College in an administrative, supervisory, academic or research, or support staff position (including law enforcement unit personnel and health staff); a person or company with whom the College has contracted (such as an attorney, auditor, or collection agent); a person serving on the Board of Trustees; or a student serving on an official committee, such as a disciplinary or grievance committee, or assisting another school official in performing his or her tasks. A school official has a legitimate educational interest if the official needs to review an education record in order to fulfill his or her professional responsibility.

4. **The right to file a complaint with the U.S. Department of Education** concerning alleged failures by the College to comply with the requirements of FERPA. 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. 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 Family Educational Rights and Privacy Act (Sec. 438, P.L. 93-380) is 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 Patricia Griffin, Vice President for Student Services, Administration Building, Room 273 (574-6118).

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Additional Redress

In addition to and concurrently with the filing of a written grievance, a student has the right to file a complaint or charges with other appropriate governmental agencies such as the Equal Employment Opportunity Commission, the Office for Civil Rights, the Department of Fair Employment and Housing, the Chancellor's Office of the California Community Colleges, or state or federal court.

Smoking Policy

In order to provide a safe learning and working environment for students and employees, smoking is prohibited in all indoor locations and within a distance of fifteen (15) feet from any District doorway, entrance to an interior area, or air intake vent. 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 (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 125 (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 (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, call 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 32 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 Examination

(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 recommendation, 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; this exemption does not cover the \$1 Student Representation fee. Students 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.

Concurrent Enrollment Program students will receive college credit for all coursework successfully completed. In addition, students may request that a transcript be sent to their high school registrar to be considered toward high school graduation.

Residence Requirements

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. California State law requires that each student enrolled in or applying for admission to a California Community College provide such information and evidence as deemed necessary to determine his/her residence classification. The burden of proof to establish residence is on the student. For more information, contact the Office of Admissions and Records, Building 1, second floor (574-6165).

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 1998-99 academic year is \$128 per unit of credit; and
4. provide proof, before registration, of medical insurance coverage or enroll in a medical insurance plan provided for international 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 to pay the tuition in three installments or petition for a waiver of the tuition fee.

A special international student application is available from the International Student Center. Telephone: (650) 574-6525. Fax: (650) 574-6680. Applications for the Fall 1998 semester must be filed by April 15, 1998. Applications for the Spring 1999 semester must be filed by October 1, 1998. Applications for the Fall 1999 semester must be filed by April 15, 1999.

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

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 2.5.

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 (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. Additional 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.

Distance Learning

College transfer classes are offered by College of San Mateo online and on television. Distance learning courses 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. Students may obtain a degree by taking a combination of distance learning courses and Saturday classes. See the Schedule of Classes for information on distance learning offerings.

San Mateo Middle College High School

San Mateo Middle College High School is an alternative education collaboration between the San Mateo Union High School District and College of San Mateo. The program's primary goal is to provide a supportive and challenging environment, along with the opportunity for academic success and career exploration, to students whose needs are not met in a traditional high school environment.

The program will launch in Fall 1998 with 60 high school juniors and seniors, all of whom were selected from among the district's seven schools. While these students are perceived as bright, creative and in some cases gifted, their grades and behavior may not yet reflect this potential.

As part of the Middle College program, these students take two SMUHSD-approved classes taught by SMUHSD instructors on the CSM campus; they round out their schedules with CSM courses. In many cases, students can earn both high school credits and college units. The Middle College program also includes comprehensive academic and career advising and access to all of CSM's support services. For information, call 574-6101.

Re-Entry Program: Adults in Transition

This program makes returning to school as easy and as rewarding as possible. The Re-entry Program is a twofold program offering both re-entry classes and a variety of services. It is designed for individuals whose college education has been postponed or interrupted. Re-entry students who enroll in career and life planning classes are provided with an opportunity to explore options by analyzing present abilities and interests, investigating new directions and objectives, developing college-level skills, and counseling for meeting new goals. It also enables the returning student to meet others who have been out of school five years or more. Re-entry counselors and re-entry support groups provide a forum for listening, exchanging ideas and providing helpful information to other Re-entry students.

For more information call 574-6571 or visit the Career Development Center, Building 5.

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 Services

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 new students are required to meet with a counselor/advisor before they register.

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 during the fall or spring semesters, or 9 units during the summer session without special approval of the counselor/advisor and the Dean of Counseling/Advising and Matriculation. 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 during spring and fall terms 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. Auditors pay the health services fee and student representation fee, but not the non-resident tuition fee. 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 @) that may be audited.

SMART Registration

College of San Mateo's SMART (San Mateo Automated Registration by Telephone) system will allow students to register in classes, make changes in their program, and pay their student fees - all in a single call from home, work or any other location with a Touch Tone® telephone.

Students who have not completed registration prior to the first day of classes using SMART or wish to add and/or drop classes must follow the procedure as outlined under Program Changes.

Program Changes

Adding Classes

Students may add classes prior to the beginning of the semester by calling SMART during published service hours. Once the semester begins, students may add classes by being in attendance, obtaining the instructor's authorization, and completing registration within published timelines.

In order to add a semester-long class, a student must be in attendance in the class by the second week of instruction. In evening classes which meet twice a week, a student must be in attendance by the third class meeting. To add a short course or a summer course, a student must be in attendance in the course within the first 12% of the class meetings.

Dropping Classes

Classes may be dropped without the instructor's approval. Withdrawal from a class or classes must be initiated by the student by the appropriate deadline date, either by calling SMART during published service hours, in person at the Office of Admissions and Records, by mail or by fax (including the student's signature). Withdrawal requests must be postmarked or faxed by the appropriate deadline date as published in the Schedule of Classes.

A student who stops attending a class is not automatically dropped from the roll, and may receive a penalty grade of F or NC. It is the student's responsibility to withdraw officially following prescribed timelines and procedures. 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% 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 end of the fourteenth week of instruction (or 75% of a term, whichever is less); 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% 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.). Petition forms are available from and submitted to the Office of Special Programs and Services, Building 1, Room 271 (574-6434).

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

Effective Fall 1998, a State-mandated enrollment fee of \$12 per unit is payable at the time of registration.

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.

Health Services Fee

All students, except high school students or those registering only for telecourses, off-campus classes or weekend classes, are required to pay a \$11 health services fee each semester at the time of registration for day or evening classes. The summer session health services fee is \$8. 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.

Students who depend exclusively upon prayer for healing in accordance with the teachings of a bona fide religious sect, denomination, or organization may be exempted from paying the health services fee. A petition for health services fee exemption can be obtained from the Health Center, Building 1, Room 226 (574-6396).

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. This refusal must be submitted in writing. The fee is not covered by financial aid.

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 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 or at the Office of Admissions and Records. 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 regulations for special events.

Special Parking for Students with Disabilities

Blue handicapped parking spaces have been provided in Lots 3A, 4, 5, 6, 6H, 7, 11, 17 and 20. Students must have both a California State Placard (issued by DMV) and a DP sticker (CSM) to park in these blue spaces. Temporary parking permits are also available with doctor's verification. For further information contact the Disabled Student Center, Building 16, Room 151 (574-6438).

Student Body Fee

The optional student body fee is \$5 per semester and is assessed at the time of registration. This entitles the student to a photo ID student body card, which can be obtained at the Student Activities Office during regular office hours. This photo identification card entitles students to special discount of 10% to 40% at participating local businesses, movie theaters, shops and restaurants. On-campus discounts are available at the Café International coffee house, the

cosmetology salon, CSM Bookstore (non-book items), and all athletic events. In addition, the card permits free admission to the CSM swimming pool at noon. Funds collected from the student body fee help support numerous programs and services on campus including scholarships, emergency student loans, child care, athletics, guest speakers and concerts.

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 \$128 per unit (in 1998-99) at the time of registration in addition to the \$12 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 an act of the minor or an act 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.

Credit and Refund Policy

Prior to the first day of classes in a semester or summer session, the following credit and refund policy applies:

Enrollment Fee/Non-Resident Tuition, Health Services, Parking and Student Representation Fees

Students dropping all classes will receive full credit toward future registration fees for the amount of all fees paid. A \$10 processing fee (plus an additional \$50 processing fee for non-resident and international students) will be retained by the College if a refund is issued to the student.

Note: If a parking sticker has been issued, it must be returned to the Office of Admissions and Records or the Security Office before a credit or refund of the parking fee will be processed.

On or after the first day of classes in a semester or summer session, the following credit and refund policy applies:

Enrollment Fee/Non-Resident Tuition

Semester-Long Courses

Students will receive full enrollment fee and non-resident tuition credit toward future registration fees if they reduce their program or officially withdraw from all courses on or before the date published as the last day to add semester-long classes.

Students who officially withdraw from all courses and request a refund will be subject to a \$10 processing fee. An additional \$50 processing fee will be charged to non-resident students and international students requesting a refund.

Short Courses and Summer Courses

Students enrolled exclusively in short courses will receive full enrollment fee and non-resident tuition credit toward future registration fees if they reduce their program or officially withdraw from all courses within the first 10% of the period of instruction of those courses.

Example: If a course has 8 meetings, 10% of 8 = .8; the college will round up to 1.0. Therefore, the student must withdraw no later than the close of business on the day of the first class meeting.

Students who officially withdraw from all courses and request a refund will be subject to a \$10 processing fee. An additional \$50 processing fee will be charged to non-resident students and international students requesting a refund.

Variable Unit Courses

No enrollment fee or non-resident tuition refund or credit will be available to students enrolled in variable unit courses who earn fewer units of credit than the number for which they originally registered. Students earning additional units will be charged accordingly.

Health Services, Parking and Student Representation Fees

Students will receive full health services fee, parking and student representation fee credit toward future fees if they officially withdraw from all of their semester-long classes on or before the date published as the last day to drop semester-long classes. Thereafter, these fees are not refundable unless an action of the College (e.g. class cancellation) prevents a student from attending class.

Student Body Fee

This fee is refundable through Friday of the third week of classes of the semester. To request a credit or refund of this fee, contact the Student Activities Office.

Important Notes:

1. Credit balances remain on student accounts for a maximum of five (5) years.
2. A student may either choose to maintain a credit balance on account or contact the Cashier's Office to arrange for a refund. Refunds are NOT issued automatically.
3. Fees paid by personal check will require 30 days for bank clearance before refunds can be processed.
4. To be eligible for a refund/credit, a student must officially withdraw from a course within the stated deadline. A withdrawal initiated by an instructor will NOT result in a refund or credit.
5. A processing fee is charged only once per 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 is equal to the enrollment fee.
6. The enrollment fee will be fully credited or refunded if an action of the College (e.g., class cancellation) prevents a student from attending class.
7. A student is entitled to a full non-resident tuition credit or refund if tuition has been collected in error.

8. Student records, including transcripts, are automatically held until all debts to the District colleges have been cleared.

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.

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.

<i>Symbol</i>	<i>Definition</i>	<i>Grade Points</i>
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."

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. Mid-term grade reports are mailed to each student along with information regarding registration for the following term. Final grades are not mailed to students. Dates of grade availability for specific semesters are published in the Schedule of Classes. Final grades are available to students during published SMART hours and on the World Wide Web on the dates as published. Point to: <http://www.smccd.cc.ca.us/csm/csm>

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 Handbook

Student Rights and Responsibilities

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.

Student Conduct

All members of the San Mateo County Community College District community share the responsibility for preserving the freedom to learn. The College's policies and procedures are designed to safeguard this freedom. Students attending any college in the San Mateo County Community College District will have full access to the rules and regulations under which these colleges operate and will be assured an impartial hearing in instances when a regulation allegedly is violated.

Students enrolled in the Colleges of the District are expected to conduct themselves as responsible citizens and in a manner compatible with the District and College function as an educational institution.

Students are also subject to civil authority and to the specific regulations established by each College in the District. Violators shall be subject to disciplinary action, including possible cancellation of registration, and may be denied future admission to the Colleges of the San Mateo County Community College District.

A system of derived authority provides the basis for the regulation of the conduct of students of the San Mateo County Community College District. Authority for the public educational system in California rests with the state. The state legislature has full author-

ity, subject only to the limits placed upon it by the Constitution of the United States and the State of California, and fulfills its duty as follows:

1. By creating laws to regulate public education – these are to be found principally in the Education Code.
2. By delegating authority to local agencies such as the Board of Trustees of the San Mateo County Community College District, which, in turn, may delegate its administrative authority.

The following actions are prohibited and may lead to appropriate disciplinary action:

1. Continued disruptive behavior, continued willful disobedience, habitual profanity or vulgarity, the open and persistent defiance of the authority of, or persistent abuse of, college personnel.
2. Assault, battery, or any threat of force or violence upon a student or college personnel.
3. Physical abuse or verbal abuse or any conduct which threatens the health or safety of any person (including any action on campus or at any event sponsored or supervised by the College).
4. Theft or damage to property (including College property or the property of any person while he/she is on the College campus).
5. Interference with the normal operations of the College (i.e., obstruction or disruption of teaching, administration, disciplinary procedures, pedestrian or vehicular traffic, or other College activities, including its public service functions or other authorized activities on college premises).
6. Use of personal portable sound amplification equipment (e.g., radios and tape players) in a manner which disturbs the privacy of other individuals and/or the instructional program of the college. Determination of an acceptable level of amplification will be made by the Vice President, Student Services or his/her designee(s).
7. Unauthorized entry into, or use of, College facilities.
8. Forgery, falsification, alteration or misuse of College documents, records, or identification.
9. Dishonesty such as cheating, plagiarism, or knowingly furnishing false information to the College and its officials.

10. Disorderly conduct or lewd, indecent, or obscene conduct or expression on any College owned or controlled property or at any College sponsored or supervised function.
11. Extortion or breach of the peace on College property or at any College sponsored or supervised function.
12. The use, possession, sale or distribution of narcotics or other dangerous or illegal drugs (as defined in California statutes) on College property or at any function sponsored or supervised by the College.
13. Possession or use of alcoholic beverages on College property, or at any function sponsored or supervised by the College.
14. Illegal possession or use of firearms, explosives, dangerous chemicals, or other weapons on College property or at College sponsored or supervised activities.
15. Smoking in classrooms or other unauthorized campus areas.
16. Failure to satisfy College financial obligations.
17. Failure to comply with directions of College officials, faculty, staff, or campus security officers who are acting in performance of their duties.
18. Failure to identify oneself when on College property or at a College sponsored or supervised event, upon the request of a College official acting in the performance of his/her duties.
19. Gambling.
20. Sexual harassment or sexual and racial discrimination.
21. Violation of other applicable federal and state statutes and District and College rules and regulations.

Guidelines for campus assembly procedures:

1. Any public meeting, demonstration, or rally on campus will be governed by the regulations of the College of San Mateo as to time, place, and manner.
2. Students have the full right to express their views on any matter, subject to college regulations in regard to time, place, and manner.
3. Disruptive behavior is defined as any action which interferes with the functions or activities of the College to the point where such functions or activities

can no longer effectively continue. Examples of such functions or activities are classroom activities, athletic events, administrative activities, approved assemblies, meetings and programs, and construction work. Examples of disruptive activities are blocking access to college facilities, disrupting classroom activities to the point where the instructor, in his/her opinion, is no longer able to continue the class, heckling an assembly speaker so that the speaker cannot continue talking, and unauthorized use of sound equipment.

4. In the event of disruptive behavior, the President of the College or his/her representative will make every effort to restore order within the context of the College of San Mateo community itself. Should disruptive activity continue, the administration may suspend those individuals continuing to engage in disruptive behavior. The administration of the College may take whatever steps are necessary to restore order, including requests for aid from appropriate law enforcement agencies.
5. Violent behavior will be defined as any action that results in physical harm to persons or property or an overt and public threat of harm.
6. In case of violence, the President or his/her delegated representative, may request immediate and appropriate action by law enforcement authorities.
7. In the case of extreme violation of the rule(s), a student may face expulsion by action of the Board of Trustees on recommendation of the College President and the Chancellor-Superintendent. Procedures in this instance are provided for in the District Rules and Regulations, as adopted by the Board of Trustees.

Disciplinary Actions

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.

I. General Disciplinary Actions

- A. Decisions regarding the following types of disciplinary action are the responsibility of the Vice President, Student Services. Unless the immediate application of disciplinary action is essential, such

action will not be taken until the student has had an opportunity to utilize the established appeal procedures found in Rules and Regulations, Section 7.73.

1. **WARNING** – A faculty or staff member may give notice to a student that continuation or repetition of specified conduct may be cause for further disciplinary action.
2. **TEMPORARY EXCLUSION** – a faculty or staff member may remove a student who is in violation of the guidelines for student conduct for the duration of the class period or activity during which the violation took place and, if necessary, for the day following. The instructor shall immediately report such removal to the college chief executive officer or his/her designee for appropriate action.
3. **CENSURE** – The Vice President, Student Services may verbally reprimand a student or may place on record a written statement which details how a student's conduct violates a District or College regulation. The student receiving such a verbal or written statement shall be notified that such continued conduct or further violation of District/College rules may result in further disciplinary action.
4. **CANCELLATION OF REGISTRATION** – The Vice President, Student Services may cancel a student's registration in the event of falsification of educational and/or financial records and related documents or for failure to meet financial obligations to the District.
5. **DISCIPLINARY PROBATION** – The Vice President, Student Services or his/her designee may place a student on disciplinary probation for a period not to exceed one semester. Repetition of the same action or other violations of District/College rules and regulations during the probationary period may be cause for suspension or expulsion. Disciplinary probation may include one or both of the following:
 - a. Removal from any or all College organizations or offices; and/or
 - b. Denial of privileges of participating in any or all College or student sponsored activities.
6. **RESTITUTION** – The Vice President, Student Services may require a student to reimburse the District for

damage or misappropriation of property. Restitution may take the form of appropriate service to repair or otherwise compensate for damages.

- B. Disciplinary action shall not of itself jeopardize a student's grades nor will the record of such action be maintained in the student's academic files.
- C. A student subject to disciplinary action has a right to appeal the decision in accordance with Rules and Regulations, Section 7.73.

II. Suspension and Expulsion

- A. Suspension is the termination of student status for a definite period of time. A suspended student may not be present on campus and is denied College privileges including class attendance and all other student body or College granted privileges.
 1. Summary suspension is limited to that period of time necessary to insure that the school is protected from the immediate possibility of violence, disorder, or threat to the safety of persons or property. Summary suspension is not necessarily considered a disciplinary action against the student.
 2. Disciplinary suspension is a temporary termination of student status and includes exclusion from classes, privileges, or activities for a specified period of time as stipulated in the written notice of suspension.
- B. The chief executive officer of the college or his/her designee may suspend a student, as deemed appropriate, for any of the following time periods:
 1. From one or more classes for a period of up to ten days.
 2. From one or more classes for the remainder of the semester or session.
 3. From all classes and activities of the college for one or more semesters or sessions.
- C. In cases involving disciplinary suspension:
 1. The student shall have the opportunity to examine any materials upon which the charges are based.
 2. The student shall be informed of the nature of the violations and/or actions which constitute the basis for the suspension.

3. The student shall be allowed to present evidence refuting the charges to the college chief executive officer or his/her designee.
 4. A letter explaining the terms and conditions of the suspension shall be sent to the student's address of record. The student's professors/instructors and counselor shall be informed, in writing, of the suspension.
- D.** At the end of the term of suspension, the student must obtain an authorization form from the Vice President, Student Services before returning to classes.
- E.** A student under suspension at any District College may not enroll in any other District College during the period of suspension.
- F.** The chief executive officer of the College shall report all suspensions of students to the Chancellor-Superintendent.
- G.** If the suspended student is a minor, the parent or guardian shall be notified in writing by the chief executive officer of the College or his/her designee.
- H.** Expulsion of a student is the indefinite termination of student status and all attending rights and privileges. Expulsion of a student is accomplished by action of the Board of Trustees on recommendation of the college President and the Chancellor-Superintendent. An expelled student shall not be allowed to register in any subsequent semester without the approval of the College President.
1. The College President shall forward to the Chancellor-Superintendent a letter of recommendation for expulsion which includes a brief statement of charges and a confidential statement of background and evidence relating to the charge(s).
 2. The Chancellor-Superintendent shall review the recommendation for expulsion with the Office of County Counsel.
 3. The Chancellor-Superintendent, as Secretary for the Board, shall forward a letter to the student by certified mail advising him/her of the charges and of the intention of the Board to hold a closed session to consider his/her expulsion. Unless the student requests a public hearing in writing at least 48 hours prior to the scheduled hearing, the hearing shall be conducted in a closed session.

4. The student is entitled to be present during presentation of the case and may be accompanied by a representative. If the student chooses to be represented by an attorney, the student must so notify the Chancellor-Superintendent no later than five working days prior to the hearing. The student has the right to examine any materials upon which charges against him/her are based, and shall be given the opportunity to present his/her evidence refuting the charges to the Board. The student or his/her representative may cross-examine any witness. The district bears the burden of proof.
5. The report of final action taken by the Board in public session shall be made a part of the public record and forwarded to the student. Other documents and materials shall be regarded as confidential and will be made public only if the student requests a public hearing.

Student Grievances and Appeals

Initial College Review

Students are encouraged to pursue their academic studies and become involved in other college sponsored activities that promote their intellectual growth and personal development. The college is committed to the concept that, in the pursuit of these ends, students 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 or she has been subject to unjust actions or denied his or her rights, redress can be sought through the filing of a grievance, or an appeal of the decision/action taken in response to a grievance, within the framework of policy and procedure set forth below.

College Channels

The chart on the following page summarizes the appropriate college channels to be utilized by any student wishing to seek redress. For further information concerning any aspect of student grievances or rights of appeal, students should contact the Office of the Vice President, Student Services. As an inherent right, basic to the concept of due process, students may elect to appeal any decisions or actions taken to the President of the College, to the Chancellor-Superintendent of the District, and ultimately

to the Board of Trustees. All grievances, or appeals of the decision/action taken in response to a grievance, will be dealt with in a timely manner.

College and District Appeal Procedures

At any time during the process outlined below, informal resolution of a grievance may be sought by mutual agreement.

I. Step 1 - College Procedure

Before initiating formal grievance procedures, the student should attempt to resolve the dispute informally with the staff member concerned. If the dispute is not resolved, the student may initiate a formal grievance in accordance with the procedures set forth below.

A. First Level

The initial grievance must be filed with the administrator, or appropriate committee, responsible for the area in which the dispute arose. In presenting a grievance, the student shall submit a written statement to include, where appropriate, the following information:

1. A statement describing the nature of the problem and the action which the student desires taken.
2. A statement of the steps initiated by the student to resolve the problem by informal means.
3. A description of the general and specific grounds on which the grievance is based.
4. A listing, if relevant, of the names of all persons involved in the matter at issue and the times, places, and events in which each person so named was involved.

The designated administrator or committee chairperson shall provide the student with a hearing, if requested, and shall review the grievance. A written notice of the decision shall be provided to the student, within ten days of the review of the student's grievance. In the event that the grievance is not resolved to the student's satisfaction, he or she may appeal the decision or action and will be advised in writing of the process to do so.

B. Second Level

1. In the event that the grievance has not been resolved at the first level, the student may appeal in writing to the administrator, or appropriate committee, responsible for the area in which the first decision or action was taken. This appeal must be made within five days after receipt of the written decision made or action taken in response to the initial grievance.

2. In the event the President is not involved at the second level, the student may request a review of the appeal within five days after receipt of the decision made or action taken in response to the appeal. The President shall provide the student with a hearing, if requested, and shall review the appeal. A written notice of the President's decision shall be provided to the student within ten days of the review of the student's written request for the review. In the event that the President's response is not satisfactory to the student, he or she may appeal the decision or action. This student will be advised in writing of his/her further rights of appeal.

II. Step 2 - District Procedure

- A. If the dispute has not been resolved at the College level, the student may appeal, in writing, to the Chancellor-Superintendent within five days after receipt of the decision of the President.
- B. The Chancellor-Superintendent, or his/her designee, shall provide the student with a hearing, if requested, and shall review the appeal. A written notice of the decision of the Chancellor-Superintendent shall be provided to the student within ten days of the review of the

student's written appeal. In the event that the appeal is not granted, the student shall be advised in writing of his/her further rights of appeal.

III. Step 3 - Board of Trustees Procedure

- A. If the dispute has not been resolved during the course of earlier procedures, the student may appeal, in writing, to the Board of Trustees, or its designee, within five days after receipt of the decision of the Chancellor-Superintendent.
- B. The Board of Trustees, or its designee, shall provide the student with a hearing, if requested, and shall review the appeal. Participants in previous reviews or hearings may be directed to appear before the Board. A written notice of the decision of the Board shall be mailed to the student and to appropriate staff members, within twenty days following the review. The decision of the Board of Trustees is final.

IV. Timelines

- A. Failure by the appropriate staff member to transmit notice of the decision or action to the student within the specified time period shall permit the student to request a review at the next level as set forth in the procedures.

B. Failure of the student to file a written appeal within the specified time period shall be deemed acceptance of the decision.

C. The timelines indicated for each step refer to working days. The designated time periods should be regarded as maximum limits and every effort should be made to expedite the process. Time limits may be extended by mutual agreement if circumstances indicate the desirability of such an extension.

Additional Redress

In addition to and concurrently with the filing of a written grievance, a student has the right to file a complaint or charges with other appropriate governmental agencies such as the Equal Employment Opportunity Commission, the Office for Civil Rights, the Department of Fair Employment and Housing, the Chancellor's Office of the California Community Colleges, or state or federal court.

College Grievance and Appeal Procedure

Subject.....	First level for decision or action.....	Second level for appeal of decision or action
Academic Matters.....	Instructor..... Division Dean.....	Division Dean Vice President, Instruction
Academic Probation or Dismissal.....	College Policy.....	Academic Standards Committee
Admissions.....	Dean of Admissions & Records.....	Vice President, Student Services
Attendance.....	Instructor.....	Division Dean
Discipline.....	Vice President, Student Services.....	President
Discrimination Matters.....	Vice President, Student Services.....	President
Fee Payments or Refunds and Non-Resident Tuition.....	Dean of Admissions & Records.....	Vice President, Student Services
Financial Aid.....	Director of Financial Aid.....	Dean of Admissions and Records
Matriculation.....	Matriculation Policy.....	Vice President, Student Services
Residency Determination.....	Dean of Admissions & Records.....	Vice President, Student Services
Security and Parking.....	Supervisor of College Security.....	Vice President, Student Services
Registration.....	Dean of Admissions & Records.....	Vice President, Student Services
Sexual Harassment.....	Vice President, Student Services.....	President
Student Records.....	Dean of Admissions & Records.....	Vice President, Student Services
Time, Place and Manner.....	College Policy.....	Vice President, Student Services
Waiver of Academic Requirements.....	College Policy.....	Academic Review Committee
Withdrawal (Late).....	College Policy.....	Academic Standards Committee
Matters Not Listed.....	College Policy or Appropriate Staff.....	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 (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.

Official Withdrawal

A student withdrawing from some or all of his/her classes is responsible for following official withdrawal procedures. A student who does not withdraw in accordance with established procedures may receive a grade of F.

See Index: "Program Changes: Dropping Classes" for specific deadlines and procedures.

Financial Aid

The Financial Aid Office 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 several federal grant, loan, and work-study programs. In addition, it also administers the Cal-Grant B and Cal-Grant C programs. The *priority* deadline for Cal-Grants is the March 2 that precedes the new academic year. For all federal and Cal Grant programs, except the Pell Grant, students must be enrolled at least half-time (6 units) to receive financial assistance.

Financial aid can assist students in paying for enrollment fees, 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.

While students may apply for federal aid throughout the academic year, several programs have limited funds. Students, therefore, are strongly encouraged to apply by the March 2 *priority* deadline. Processing of the financial aid applications by the Financial Aid Office usually takes approximately 8 weeks.

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 217. Applications for small emergency loans are available through the Financial Aid Office.

Type of aid	Amount	Eligibility	Application	Priority Deadline
Federal Pell Grant Program	\$100 to \$3000	Need based – U.S. citizen or eligible non-citizen	Free Application for Federal Student Aid (FAFSA) supplemental documents	60 days before end of academic term
Board of Governors Waiver (BOGW) (State Grant to cover enrollment fee)	Covers enrollment fees. Also waives health fee.	California resident - low income or recipient of CalWORKS, SSI, GA	Free Application for Federal Student Aid (FAFSA) or BOGG Application CalWORKS/SSI/GA	None
Federal Supplemental Educational Opportunity Grant (FSEOG)	\$100 to \$800	Need Based – U.S. citizen or eligible non-citizen	Free Application for Federal Student Aid (FAFSA) and supplemental documents	March 2
Extended Opportunity Program Services Grant (EOPS) (State Grant)	Up to \$175	Need based – Meet EOPS eligibility criteria	Free Application for Federal Student Aid (FAFSA) and supplemental documents	Priority date for Fall/ Spring
Cal Grant A (State Grant)	\$270 to \$4320 (upon transfer)	California resident – need based – subjective criteria and GPA considered	Free Application for Federal Student Aid (FAFSA)	March 2
Cal Grant B (State Grant)	Up to \$1410	California resident – financial need, low income, less than 16 units college work	Free Application for Federal Student Aid (FAFSA)	March 2
Cal Grant C (State Grant) Must be enrolled in vocational program	Up to \$530	California resident – need based – subjective criteria and GPA considered	Free Application for Federal Student Aid (FAFSA)	March 2
Federal College Work-Study Program	Varies	Need based – U.S. citizen or eligible non-citizen	Free Application for Federal Student Aid (FAFSA) and supplemental documents	March 2
Federal Perkins Loan (formerly called National Direct Students Loan) Low interest Federal Loan. Current interest rate 5%	\$100 to \$2500 for first two years of undergraduate study	Need based – U.S. citizen or eligible non-citizen. Awarded first to students with exceptional financial need	Free Application for Federal Student Aid (FAFSA) and supplemental documents	March 2
Federal Stafford Loan (Government subsidized and unsubsidized loans made by commercial lenders.) Current loan interest rate not to exceed 9%	Undergraduates up to \$2625 per year. Maximum: \$3500 total	Need based – U.S. citizen or eligible non-citizen	Free Application for Federal Student Aid (FAFSA) Stafford Application, and supplemental documents	60 days before end of academic term to receive aid for the current term
Federal Plus Loans to undergraduate students, plus loans for parents of dependent undergraduate students. Current interest rate 11%	Parents: up to \$4000 per academic year on behalf of the student	Parents must meet credit check. Loan amount may not exceed student's cost of attendance less financial aid award for loan period– U.S. citizen or eligible non-citizen	Free Application for Federal Student Aid (FAFSA) plus application and supplemental documents Loans made by commercial lenders (banks)	60 days before end of academic term to receive aid for the current term
Staff and Federal Unsubsidized Loans for students who are independent undergraduates and to undergraduate students whose parents are unable to obtain a Federal Plus Loan. Interest rate not to exceed 9%	Students: up to \$4000 per academic year	Student must first apply for the Stafford Student Loan. Loan amount may not exceed student's cost of attendance less financial aid award for loan period – U.S. citizen or eligible non-citizen	FAFSA, supplemental documents, and Supplemental Loans application Loans made by Commercial lenders (banks)	60 days before end of academic term to receive aid for the current term

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 Act/Accessibility Committee (2)
- College Council (4)
- College Instruction Committee (2)
- College Student Services Committee (2)
- College Auxiliary Services Advisory Committee (4)
- College Library and Media Center Committee (2)
- College Safety Committee (2)
- District Auxiliary Services Advisory Committee (2)
- District Shared Governance Council (1)

Further information about the Associated Students can be obtained by contacting current student officers through the Student Activities Office or the Associated Students advisor, 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.

Student Senate

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

The Student 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 senate newsletters, press releases to the public media, advertising for student participation in student government, and marketing of student body I.D. 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 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 & Enhancement 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 members are also responsible for developing ways to enhance the academic experience of students on campus. The committee is made up of student representatives who serve on college advisory committees as well as 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 Senator officers appointed by the Senate, the student General Manager of the Café International, two additional members of the Café International staff and the College Coordinator of Student Activities.

Associated Student Body Card

All students who have completed registration and paid the \$5 student body fee are entitled to a photo I.D. student body card. After classes have begun, you may obtain your Student Body Card at the Student Activities Office. This photo identification card entitles you to special discounts from 10% to 40% off at local businesses, movie

theaters, shops and restaurants. On-campus discounts are available at the Café International coffee house, the cosmetology salon, CSM Bookstore (for non-book items), all athletic events, and the card permits free admission to the CSM swimming pool at noon. The funds collected from the student body fee help support numerous programs and services on campus including: scholarships, emergency student loans, child care, athletics, guest speakers and concerts. If you would like more information about the student body card benefits, or would like the student body fee reimbursed, please contact the Student Activities Office before the end of the add/drop period.

Student Clubs and Organizations

College of San Mateo encourages students to augment their formal education by participating in extracurricular activities and events. Among the opportunities available is the privilege of starting and/or being a member of a chartered, formally-recognized club or organization. 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. Anyone interested in joining or starting a club or organization is welcome to stop by the Student Activities Office (Building 5, Room 125; Telephone: 574-6141) for more information. All that is needed to start a new organization is at least six interested students, an approved faculty/staff advisor and a constitution meeting college requirements.

The following are current or recently active clubs and organizations. The advisor of each club is also listed as a resource person to contact for more specific information.

Career Oriented

Aero Club (Aeronautics) Alpha Eta Rho, meaning "air" in Greek, is an affiliate of a national aviation fraternity which promotes interest in aviation. Advisor: Steve Cooney, 358-6762.

Architecture - American Institute of Architecture Students (AIAS) Involves architecture students in local and national events and competitions. Advisor: Paul Zimmerman, 574-6126.

Business Students Association (BSA) Promotes interest in business through speakers and social activities. Advisors: Rosemary Nurre, 574-6126.

Computer Science Club Informs students of the latest in the computer science field through lectures and activities. Advisor: Cathleen Kennedy, 574-6150/6326.

Cosmetology Club Provides social activities for cosmetology students and their families. Advisors: Patricia Castro, 574-6361; Ann Giniere, 574-6363, ext. 5111.

Dental Assisting (Epsilon Delta) Provides social activities for dental assisting students and their families. Advisor: Elizabeth Bassi, 574-6211.

Design and Drafting - American Institute of Design and Drafting (AIDD) CSM Chapter of the national organization provides information and social activities for students involved in design and drafting. Advisor: Jim Cullen, 574-6482.

Electronics Technology Provides activities and information for students in the electronics field. Advisor: Roy Brixen, 574-6135.

Engineering - Union of Student Engineers (USE) Provides information and interaction through activities and a club-run library/lounge. Advisor: Mikael Kroenke, 574-6617.

Horticulture Club Provides activities and fund-raisers for scholarships to help students continue their studies in horticulture. Advisor: Matthew Leddy, 574-6217.

Math Club Helps students at all levels of math to study and to have fun. Advisor: Mohsen Janatpour, 574-6272.

Nursing Students Association Provides information, guidance and support for nursing students. Advisors: Jane McAteer, 574-6682; Janis Ryan, 574-6352.

Science Club Promotes interest in the integrated sciences, provides support services, and encourages social and educational activities for students in the sciences. Advisor: Linda Hand, 574-6633.

Liberal Arts

Broadcasting Arts Club Furthers the interest and enjoyment of the broadcasting field. Advisor: George Mangan, 574-6299.

Floral Design-American Institute of Floral Design Provides opportunities for floral design students to have fun, receive discounts on flowers, and promote their art. Advisor: Lois Hillis-Lewis, 574-6253.

Jazz Dance Club Encourages student interest and activity in jazz. Advisor: Ginger Cain, 574-6461.

Journalism Club Provides opportunities for journalism students to attend local and state competitions. Advisor: Ed Remitz, 574-6330.

Modern Dance Club Encourages student interest and activity in modern dance. Advisor: Terri Grimshaw, 574-6461.

Visual Arts Club Encourages student interest and activity in the visual arts - painting, drawing, textiles, etc. Advisor: Rory Nakata, 574-6290.

Ethnic/Cultural

Arab Student Union Increases awareness and appreciation of Arab cultures and provides a social atmosphere and support for Arab students. Advisor: David West, 574-6658.

Asian Student Union (ASU) Brings together students interested in Asian culture and promotes activities that celebrate a greater awareness of Asia. Advisors: Kate Motoyama, 574-6676; Yaping Li, 574-6338.

Ballet Folklorico de CSM Provides opportunities for students to share in Latino culture through traditional music and dance. Advisor: Sylvia Aguirre-Alberto, 574-6160; Martha Gutierrez, 574-6332.

Barrios Unidos Assists in helping Latin-American students and community members work toward eliminating community violence. Provides encouragement and positive role models to help Latino youth find positive, healthy ways of interacting in the world and moving toward positive change. Advisor: Adrian Orozco, 574-6154; Doreen Garcia, 574-6148.

Black Student Union (BSU) Promotes the cultural, social, and educational interests of African American students. Advisors: Carolyn Ramsey, 574-6197; David West, 574-6658.

Chinese Student Association (CSA) Encourages an appreciation of Chinese art, food, and culture. Advisor: Frances Schulze, 574-6685.

Club Italiano Encourages opportunities for students to share in an appreciation of Italian language and culture, and provides friendship and support for Italian students studying at College of San Mateo. Advisor: Ann Freeman, 574-6674.

Ethnic Studies Society (ESS) Encourages social, cultural, and educational experiences on the campus and in the community. Advisor: Zelte Crawford, 574-6145.

French Club Provides support for students wanting to learn more about the french language and culture. Advisors: Susan Petit, 574-6357; Gary Church, 574-6621.

German Club Provides opportunities to improve conversational German and experience German culture. Advisor: Diane Musgrave, 574-6351.

Indo-American Club Provides social events and activities highlighting Indo-American culture. Advisor: Patricia Benney, 574-6414.

Inishinabe-Beau - All Nations Native American Club Invites all native American and indigenous peoples of the world to share their culture and ways. Advisor: To be announced - Contact 574-6141.

International Students Union Encourages involvement by students of varied ethnic and cultural backgrounds in planning social events and promoting educational opportunities in the community. Advisor: Zelte Crawford, 574-6145.

Latin American Student Organization (LASO) Encourages involvement by Latin American students in sharing cultural values and working with the community. Sponsors several Latin American cultural events each year. Advisors: Martha Gutierrez, 574-6332; Tania Beliz, 574-6248; Modesta Garcia, 574-6190.

Polynesian Club Encourages an appreciation for Polynesian culture and provides support for Polynesian students. Advisor: Deborah Laulusa, 574-6461.

Samahan Club Brings together students interested in Filipino culture and promotes activities that celebrate a greater awareness of the Philippine Islands. Advisor: Juanita Alunan, 574-6591.

Unity Among Brothers (UAB) Provides ways for African-American males to support each other both socially and educationally. Hosts the annual UAB basketball tournament. Advisor: Zelte Crawford, 574-6145.

Special Interest

Adaptive Physical Education Students (APES) Assists in supporting adaptive physical education. Advisor: John Hogan, 574-6469 or 574-6453.

Alpha Gamma Sigma (AGS Honor Society) The CSM Eta chapter began in the 1930's and provides students with support in achieving academic goals. Advisor: Al Acena, 574-6497.

Alumni Association Encourages former students to maintain interest in campus programs and activities. Advisor: Steve Robison 574-6141.

Amateur Radio Club Provides students with an interest in radio and electronics with practical experience useful for emergency communication and fun. Advisor: Tom Diskin, 574-6133.

Catholic Students Promotes interest in the Catholic faith. Advisor: Adrian Orozco, 574-6154.

Cheerleaders Spirit Squad Promotes spirit campuswide through cheerleading and spirit leading. Advisor: Gary Dilley, 574-6461.

Christian Fellowship Promotes academic, social and religious growth among students. Advisor: Kenneth Brown, 574-6249.

Civil Rights Club Informs and educates students regarding civil rights struggles and reforms, both in this country and internationally. Advisor: Jesus Perez Moya, 574-6496.

Earth Preservation Promotes awareness in the environment and conservation through activities and fund-raisers. Advisor: David Danielson, 574-6376.

Gay Student Union/PRIDE Provides information, support and social activities for gay, lesbian and bisexual students. Advisor: To be announced - Contact 574-6141.

Jewish Student Union Provides social and educational support for students of Jewish descent. Advisor: To be announced - Contact 574-6141.

Muslim Student Union Provides support for Muslim traditions. Advisor: David West, 574-6658.

Sport

Baseball Club Provides support for the Baseball team and promotes the love of baseball. Advisor: Doug Williams, 574-6875.

Football Club Provides support for the Football team and their fans. Advisor: Larry Owens, 358-6771/6447.

Track and Cross Country Provides support for members of the Track and Cross Country teams and their fans. Advisor: Joe Mangan, 574-6448.

Support

Arts in Recovery Promotes activities in art, music, and drama with a drug-free theme. Advisor: Angela Stocker, 574-6465.

Child Development Center Parents Provides social activities and fund-raisers for children of the Mary Meta Lazarus Children's Center and their parents. Advisor: Louise Piper, 574-6280.

EOPS Club Provides opportunities and activities for EOPS students, including field trips, study sessions and barbecues. Advisor: Ruth Turner, 574-6154.

Helping Hands Provides support for students with physical disabilities and encourages their full involvement in campus life. Advisors: John Hogan, 574-6469 or 574-6453; Carolyn Fiori, 574-6432.

SPARK Club SPARK stands for Support, Prevention, Awareness, Responsibility and Knowledge regarding alcohol and other drugs. Club activities assist in providing ways for students to interact in positive, fun and exciting ways without alcohol and drugs. Advisor: Angela Stocker, 574-6465.

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 facility use.

Referral Services

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

Transportation Information

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

Campus Posting

All signs, flyers, or similar materials must follow campus regulations regarding time, place and manner of distribution. Copies of these regulations are available in the Student Activities Office, Building 5, Room 125.

Vending Refunds

If campus food vending machines are not vending properly, refunds are available through the Cafeteria. Game machine vending refunds are available through the Student Activities Office.

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 publication of the Associated Students Senate to inform students of various campus issues and programs and to provide an open forum between students and student leaders.

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 every other week, serving a two-fold purpose of providing news coverage of activities on campus and of giving experience to journalism students.

Student-Sponsored Events

Time, Place and Manner for Student-Sponsored Events

The scope of these regulations extends to all student sponsored events and public forums. For the purposes of this regulation, such events include, but are not necessarily limited to, the presentation of speakers, programs, concerts and dances, solicitation of funds, distribution and posting of material, circulation of petitions, and the sale of materials.

The following regulations are designed to increase students' opportunities to enrich their educational experiences, to protect constitutional rights of free expression, and to insure that there will be no interference with the instructional program of the college.

The general purpose of all student groups as organized, recognized, and approved under the supervision of the college administration shall be in conformity with the provisions of California Education Code and the educational objectives of the College. All student organizations are subject to the regulations of and derive their authority from the California Education Code, the San Mateo County Community College District Board Policy and its Rules and Regulations, and College Regulations, in that order.

Denial of membership in any organization or of participation in any activity on the basis of sex, race, religion, or national origin is specifically prohibited. Membership in secret societies is prohibited.

Student Organizations

I. Activities Sponsored by Recognized Student Organizations

A. Definition: A recognized student organization is defined as a group which:

1. Operates under the advisorship of a member of the college staff.
2. Maintains in the Student Activities Office a constitution which has been approved by the members of the organization and the Coordinator of Student Activities, and a current list of officers. Membership is limited to registered students at College of San Mateo.
3. Holds meetings regularly which are open to all students and announces its meetings in the *CSM Activities Calendar* and other publications of general circulation on campus such as *The San Matean* or *Monday Morning Blues*.

4. Deposits all organizational funds in a college account as required by established college procedures.

B. Privileges: The privileges of recognized student organizations include:

1. The use of the name of College of San Mateo.
2. The use of the buildings, grounds, equipment and services of the college when available and officially scheduled.
3. Publicity through appropriate college channels.
4. Appropriate advice and assistance from the Student Activities Office.

C. Procedure for the presentation of programs:

1. Programs intended solely for members of recognized student organizations require no approval other than that of the faculty advisor.
2. The presentation of programs by recognized student organizations which are open to the entire student body require that the sponsor adhere to the following procedures:
 - a. In order to obtain authorization to present the program, the sponsor is required to furnish the Coordinator of Student Activities with appropriate details regarding the planned program. The information provided is to include the nature of the program, date and time, anticipated attendance, services needed (e.g., custodial, ushering, security, publicity, audio visual, etc.), equipment required, proposed facility to be utilized and all details regarding admission charges or other funds to be collected in conjunction with the program. Upon review of this data, the Coordinator of Student Activities will place the event, if approved, on the Student Activities Calendar. If approval is denied, the Coordinator of Student Activities' decisions in this regard are subject to appeal and review by the Vice President, Student Services.
 - b. Program plans must demonstrate that the program will not present or create an undue health or safety risk to students, staff, or the public. The Vice President, Student Services may deny or cancel programs which cannot meet this requirement.

- c. Programs must be presented in the appropriate authorized areas as listed in Section D.1.

- d. Programs will end by 1:00 a.m. unless approval to extend the program time is granted by the college President.

3. Sponsors of events which involve professional performers, speakers, artisans, or such may pay these individuals for their services. This rate will be established by agreement between the performer, the sponsor, and the Coordinator of Student Activities.

D. Reservation of facilities for meetings or other purposes:

1. The sponsor of an approved program must reserve the desired facility in accordance with established procedures. The initial determination of the availability of a facility will be indicated by the personnel listed below:

- a. *Coordinator of Student Activities, 574-6141:*

Student Center Building 5:

Main Cafeteria (400)

South Cafeteria (700)

Balcony Lounge (So. Mezzanine) (100)

Gallery Room (100)

Student Center Plaza (Outdoor)

- b. *Facilities Utilization Clerk, 574-6220:*

All Classrooms

Choral Room (225)

Theater (412)

Amphitheater (Outdoor)

Building 18, Room 76 (130)

Library Conference Room (20)

Gymnasium (2000)

Athletic Facilities

Note: Parenthetical figures next to the name of each facility listed above indicate the approximate capacity of the facility.

2. Public facilities and classrooms are normally available for special program use at any hour of the week other than when being used in conjunction with the instructional program of the college subject to the limitation of outdoor sound amplification as stated in #4 below.

3. Requests for reservations for college facilities by student organizations are to be made through the Student Activities Office. Details of the program being proposed must accompany the request for facilities and be submitted to the Coordinator of Student Activities for review. (See Section 1.C.2 for details.) Once the program plans have been reviewed and the availability of the facility has been established, the facility reservation will be confirmed with the college Facilities Utilization Clerk through the use of a facilities contract form.

4. Programs must be produced in such a manner so as not to constitute interference with the instructional program. Only at times when classes are not in session or during the College Hour (Tuesday and Thursday 12 noon to 1 p.m.) may sound amplification equipment be used out of doors. Exceptions to this policy may be granted by the Vice President, Student Services under any of the following specific instructions:

- a. The program includes a prominent speaker or presentation of campus-wide interest.
- b. The program is a response to an imminent or continuing national or local crisis.
- c. The program is of campus-wide interest and significance.

Before a request for an exception may be submitted to the Vice President, Student Services, the sponsor of the program must make every effort to schedule the program into authorized facilities during hours when classes are not in session or during the College Hour. Sponsors must also verify that it is impossible to do so.

E. Distribution of materials:

The college regulations governing the distribution of printed and manufactured materials is designed to permit maximum freedom of expression and to prevent attempts to coerce or intimidate students into buying or receiving printed materials. Distribution of any material on campus is subject to the approval of the Vice President, Student Services or his/her designee.

1. Distribution of any material in classrooms is expressly prohibited.
2. Distribution of such material through the college mail services and facilities is permitted only by Recognized Student Organizations and with the approval of the Vice President, Student Services. The nature of the information to be disseminated in this manner should be such that the regularly available channels of campus communication (e.g., posters, flyers, *CSM Activities Calendar*, *San Mateo*, etc.) cannot be effectively utilized.
3. The distribution or posting of commercial material will not ordinarily be permitted. Specific exceptions must be authorized by the Vice President, Student Services or his/her designee.
4. Materials may not be distributed in any building on campus except for designated areas of the Student Center.
5. Tables may be set up in authorized areas of the Student Center by campus organizations and by individuals. Requests must be submitted to the Student Activities Office for approval. Tables will be checked out on an availability basis. Institutional and campus organizations will receive priority use of the tables.
6. Tables must be checked out and returned to the Student Activities Office.
7. Tables must be staffed at all times and a placard identifying the organization must be displayed.
8. Distribution of all materials is to be coordinated with the Coordinator of Student Activities. An information copy of any material to be distributed must bear the name of the sponsor.
9. The collection of signatures for petitions is subject to the same regulations as those which govern the distribution of materials. Such matters as coordination with the Coordinator of Student Activities, identification of the sponsor, and the restrictions as to the areas of circulation, govern the collection of signatures for petitions as well as distribution of materials.

F. Posting of materials:

1. All materials to be posted must be dated and stamped by a member of the Student Activities Office staff.
2. Approved materials may be posted in the Student Center and on open bulletin boards located throughout the campus. Classroom bulletin boards are intended for instructional usage but may be utilized on a space available basis, subject to Divisional needs and policies. Any materials posted in unauthorized locations, or without being stamped and dated by the Student Activities Office are subject to removal.
3. Materials may not be posted on doors, painted surfaces, or exterior building walls. All other surfaces (e.g., non-classroom bulletin boards, glass surfaces adjacent to doors, etc.) are available for the posting of material on a space available basis. Sponsors are responsible for the removal of their material after a reasonable period of time or once the material becomes obsolete. Any obsolete material may be removed by any member of the college staff.
4. Permission may be granted to post materials, on a space available basis, to educational institutions or public service agencies.
5. The number and size of posters any one organization may post is subject to limitation by the Coordinator of Student Activities and shall be limited only if the materials are so large or numerous as to infringe on the rights of others to use designated areas.
6. Placement of materials on parked vehicles causes a severe litter problem and is expressly prohibited.
7. Exceptions to any of the preceding requirements must be approved in advance by the Coordinator of Student Activities.

II. Ad-Hoc Student Organizations

A. Definition:

An ad-hoc student organization is defined as a group which:

1. Is organized for a specific and temporary purpose which is

compatible with the educational objectives of the college.

2. Operates under the advisorship of a member of the college staff.
3. Files a statement of purpose with the Student Activities Office and a roster of at least six (6) student members.
4. Normally operates for a period not to exceed thirty (30) school days.
5. Is composed entirely of students currently enrolled in the college.

B. Privileges:

An ad-hoc student organization will be granted all the privileges of recognized student organizations (see Section I.B) and must follow the procedural requirements outlined above.

III. Off-Campus Organizations

Public service agencies and charitable organizations may request approval from the President for a limited number of fund raising or educational programs to be conducted on the campus. Such requests are subject to District policies with respect to use of facilities.

IV. Activities Not Sponsored by Recognized Student Organizations

A. Presentation of Programs

1. Public Forums: Certain areas of the college have been designated as public forums and may be used by students, staff and members of the public in a manner consistent with these regulations.
 - a. Location of Public Forums:
Student Center Plaza
Student Center Hallway
 - b. Time: College Hour — request for other times must be approved in advance by the Coordinator of Student Activities
 - c. Civic Center use: College facilities may also be available for public use in accordance with District Regulations.
2. Procedure for Presentation of Programs:
 - a. All programs presented under these guidelines must be open to the public and free of charge.

b. Prior authorization is required. In order to obtain such authorization to present the program, the sponsoring individual or group is required to furnish the Coordinator of Student Activities with appropriate details regarding the planned program, including: 1) nature of the program, 2) date, 3) time, 4) anticipated attendance, 5) preferred location (taken from list of approved locations), and 6) services needed (e.g. sound amplification, custodial, ushering, security).

Upon review of the request, the Coordinator of Student Activities will approve or disapprove the activity, assign a time and location and calculate and collect charges, if any, for use of District equipment, security, custodial or other necessary expenses. In the event that the activity is not approved, the sponsor may appeal the denial to the Vice President, Student Services, whose decision shall be final.

c. Program plans must demonstrate that the program will not present or create undue health or safety risks to students, staff, or the public.

d. Authorization may be denied only in cases where it is reasonably believed that the proposed activity is likely to cause a substantial disruption to the orderly operation of the college, is obscene or pornographic, is pervasively vulgar or indecent, or advertises products or services not permitted for use under the law.

e. Approved programs must be confined to the time and place designated by the Coordinator of Student Activities and limited to the times and places set forth in Section IV.A.1.

B. Distribution of Materials

1. Pre-approval of materials. College of San Mateo has designated certain areas of the campus and certain bulletin boards as limited public forums. Persons or organizations seeking to distribute materials on campus shall provide a copy of the material to the Coordinator of Student Activities, or his/her designee. The Coordinator of Student Activities will promptly review the proposed distribution and approve it unless the material is libelous, invades the privacy of others, is obscene or pornographic, is pervasively indecent and vulgar, will cause a material and substantial disruption of the proper and orderly operation of the college or college activities, or advertises a product or services not permitted for use under the law. In the event that materials are not approved for distribution, the decision may be appealed to Vice President, Student Services.

If the material is approved, the individual or organization will be allowed to distribute or post such material at approved locations and times as set forth in these regulations. The approved locations are available from the Coordinator of Student Activities.

2. Materials shall not be distributed in a manner which disrupts any college activity or blocks or impedes the safe flow of traffic within corridors and entrance ways at the college. Persons who distribute such materials shall be responsible for cleaning up such materials thrown on the floor, in college buildings, or on the grounds outside the college.

3. Available space for posting materials is limited at the college. In order to provide the maximum opportunity for a variety of individuals and organizations to post materials for review by students the college will remove outdated materials on a regular basis. Posted materials may be removed by college personnel at any time if posted in restricted locations and after 14 days of posting in approved locations. Any document which does not bear a date stamp indicating the first day of posting will be presumed to be more than 14 days old and may be removed. Materials bearing a date stamp may remain on designated bulletin boards for up to 14 days.

4. Materials may not be posted on doors, painted surfaces, or on building walls. Sponsors are responsible for removing posted materials upon expiration of the approved time period.

5. The number and size of posters or leaflets that any one organization or person may post is subject to limitation by the Coordinator of Student Activities and shall be limited only if the materials are so large or numerous as to infringe on the rights of others to use designated areas.

6. In the event that material is distributed from a table, the table may only be set up in approved locations. The table must be staffed at all times and the table must be removed at the end of each day of distribution of materials.

7. Placement of materials on parked vehicles causes a severe litter problem and is expressly prohibited.

Bookstore

The CSM Bookstore is located on the lower level of the Student Center, Building 5, and is open Monday through Thursday from 8 a.m. to 7:15 p.m. and Friday from 8 a.m. to 3 p.m. Summer hours vary.

The standard refund policy allows for the return of any items (except paperbacks, tradebooks, and study aids) with the original receipt within three days of purchase, except during the last five weeks of the semester. The merchandise must be new or in its original condition. Textbook and other merchandise purchased for a new semester may be returned with the receipt any time within the first two weeks of classes. Summer policy varies. Please verify your books with your instructor within the first two weeks of the semester.

During the semester, textbooks may be sold back to the Bookstore at wholesale prices if the student presents a college withdrawal slip before the last five weeks of the semester. Summer policy varies. During finals textbooks may be sold back to the Bookstore at up to 50% of the original purchase price. Discontinued titles are purchased by the Bookstore at wholesale prices. **Student I.D. cards are required to sell books back to the Bookstore.**

Special orders for books and supplies may be placed with a required deposit. For additional information, please call 574-6366.

Food Service

Café International

Café International is located in the Student Center, Building 5, and is open Monday through Thursday from 7 a.m. to 9 p.m. and Friday from 7 a.m. to 2 p.m. when classes are in session. The Café is a student-run coffee house created and operated by the Associated Students. The Café offers a wide variety of espresso drinks, international coffees, herbal teas, soft drinks, breads, pastries and desserts. For additional information, please call 574-6187.

Cafeteria

The Cafeteria is located in the Student Center, Building 5, and is open Monday through Friday from 9 a.m. to 2 p.m. when classes are in session. The Cafeteria provides a selection of hot and cold foods including a fresh salad bar, homemade soups, made-to-order deli sandwiches, broiler and grill specialties, and a variety of beverages. Everything served is made fresh daily in the cafeteria's own kitchen. Full catering is available for special occasions and meetings by contacting the manager (574-6582).

To serve students at the north end of campus, the kiosk is located near Building 13 and is open Monday through Thursday from 7:30 a.m. to 2 p.m. and 5 to 9 p.m.; and Friday from 7:30 a.m. to 2 p.m. when classes are in session.

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 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 (574-6461).

Telephone Directory

A

Accounting	574-6494
Adaptive P.E.	574-6469
Administration of Justice	574-6343
Admissions and Records	574-6165
Dean	574-6594
Assistant Registrar	574-6576
AA/AS/Certificate Information	358-6858
Admissions Information	574-6165
Grades/Attendance	358-6857
Registration Information	574-6165
Transcripts (Outgoing)	574-6593
Veterans Assistant	358-6852
Aeronautics	574-6275
Anthropology	574-6372
Apprenticeship Program	574-6116
Architecture	574-2126
Articulation and Research	574-6196
Associated Students	574-6185
Advisor	574-6141
Executive Officers:	
President	574-6677
Vice President	574-6677
Secretary	574-6677
Finance Director	574-6677
Committees:	
Program & Services	574-6677
Academic Affairs	574-6677
Inter Club Council	574-6677
Public Relations	574-6677
Associated Student	
Bookkeeper/Cashier	574-6408
Astronomy	574-6268
Athletics	574-6462
Audio/Visual Services	574-6103

B

Biology	574-6268
Building Technology	574-6482
Bookstore	574-6366
Broadcast and Electronic Media	574-6299
Business Division	574-6494

C

Cafeteria	574-6582
Café International	574-6187
Career Development Center	574-6571
Cashier's Office	574-6412
Ceramics Lab	574-6290
Chemistry	574-6268
Child Development Center	574-6279
Clubs & Organizations	574-6141
Computer Information Science	574-6268
Computer Lab 1 (Business)	574-6489
Computer Lab 2 (Business)	574-6470
Coordinator	574-6439
Computer Lab (Math/Science)	574-6270
Coordinator	574-6326
Computer Chronicles	574-6233
Computer Writing Center	574-6431
Cooperative Education	574-6171
Corporate & Community Education	574-6173
Community Education	574-6149
Multimedia Development	574-6208
Cosmetology Information	574-6363
Hair Appointments	574-6361
Counseling Services	574-6181
Counseling Center	574-6400
Drop-In Counseling	574-6400
Creative Arts Division	574-6494

D

Dance	574-6461
Dental Assisting	574-6212
Disabled Student Services	574-6215
High Tech Center	574-6432
Learning Disabled Program	574-6433
Transition to College	574-6215
D.S.P.S. Student Center	574-6438
Drafting	574-6188

E

E.O.P.S.	574-6154
Economics	574-6375
Education	574-6640
Educational Broadcasting	574-6202
Electronics/Avionics	574-6135
Emeritus Information	574-6199
Engineering	574-6268
English/Speech	574-6314
Ethnic Studies	574-6145
Evening College	574-6544

F

Facilities Scheduling	574-6220
Film	574-6314
Financial Aid	574-6147
Fire Technology	574-6347
Floristry Lab	574-6253
Foreign Language	574-6314
Foreign Study Program	574-6595

G

Geography	574-6646
Geology	574-6268

H

Health Center (Nurse)	574-6396
Health Science	574-6268
History	574-6639
Honors Program	574-6496
Horticulture Lab	574-6253
Housing Assistance	574-6141
Humanities	574-6496

I

Information (Operator)	574-6161
On Campus	DIAL "0"
Instruction Office	574-6404
Instructional Media Services	574-6103
International Student Center	574-6525

J

Job Listing (Student)	574-6151
Job Information (District)	574-6111
Journalism	574-6330

K		N		Physics	574-6268
KCSM TV/KCSM FM	574-6586	Nursing (Academic)	574-6218	Planetarium	574-6256
L		Nutrition	574-6494	Political Science	574-6382
Language Arts Division	574-6314	O		President's Office	574-6222
Library	574-6100	Oceanography	574-6268	Psychology	574-6383
Loan Desk	358-6783	Operations	574-6221	Psychological Services	
Magazine Desk	574-6106	P		Appointments	574-6396
Reference Desk	574-6232	Paleontology	574-6268	Coordinator	574-6193
M		Physical Education/ Athletics Division		Public Relations/ Marketing Communications	574-6231
Machine Tool Technology (CNC)	574-6121	Athletic Trainer	574-6451	R	
Mail Room	574-6410	Baseball	358-6875	Re-Entry Program	574-6571
Maintenance (Bldgs. & Grounds)	574-6113	Basketball (women's)	574-6455	Reading Lab	574-6437
Management	574-6522	Cross Country	574-6448	Real Estate	574-6483
Manufacturing Technology	574-6121	Football	358-6771	Registrar's Office	574-6165
Masterworks Chorale	574-6210	Softball	574-6455	S	
Math/Science Division	574-6268	Swimming Pool	574-6459	San Matean Newspaper	574-6330
Math Lab	574-6540	Team House	574-6467	Sculpture	574-6290
Medical Assisting	574-6634	Tennis (women's)	574-6449	Security Office	574-6415
Meteorology	574-6268	Track & Field	574-6448	S.P.A.R.K. Alcohol/Drug Program	574-6465
Military Science	574-6496	Philosophy	574-6376	Social Science Division	574-6496
Monday Morning Blues	574-6589	Photography Lab (Creative Arts)	574-6292	Sociology	574-6643
Multicultural Center	574-6154	Physical Science	574-6268	Student Activities	574-6141
Museum	574-6441	T		Technical Arts & Graphics	574-6278
Music	574-6494	V		Technology Division	574-6228
		W		Telecourses	574-6120
				Testing	574-6175
				Theater	574-6586
				Transfer Center	358-6839
				Transition to College	574-6487
				Tutoring Center	574-6329
				V	
				Vice President, Instruction	574-6404
				Vice President, Student Services	574-6118
				W	
				Welding Technology	574-6122
				Writing Lab	574-6436

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.")

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 completed at one or more of the District colleges may be considered for Academic Renewal. The substandard work (i.e., less than a 2.0 grade point average) that is 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 at one or more of the District colleges. 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 Cañada College, College of San Mateo, and/or Skyline College.

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.

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 through 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 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 (an A, B, C or CR grade), the student must 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 (AP) Exams listed below. AP units awarded are not calculated into a student's GPA. To order AP scores, students should write to: AP Exams, P.O. Box 6671, Princeton, NJ 08541-6671 or phone (609) 771-7300. With the exception of CIS 250/251, only one course per AP score may be used for IGETC or CSU General Education credit. The total number of AP units accepted by individual UC or CSU campuses may be limited. Please see a counselor for more information.

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

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
Statistics	Credit for: ECON 123 or MATH 200 4 units or PSYC 121 3 units	Credit for: ECON 123 or MATH 200 4 units or PSYC 121 3 units	Credit for: ECON 123 or MATH 200 4 units or PSYC 121 3 units

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 6 units	Credit for: ENGL 100 and ENGL 110
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
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

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

Instructional Resources

Library

With its panoramic view of the Bay Area, the newly-rebuilt and remodelled Library is an inviting place in which students, faculty and community users gather to study, browse, and research. While preserving the classic exterior, the College has installed state-of-the-art telecommunications networks along with new lighting, environmental systems, and elevators. The seismic strength of the building has also been significantly improved with new steel frameworks. The Library provides state-of-the-art service in what is virtually a new building, equipped for service well into the 21st Century.

The main floor houses reference services and the Information Commons, periodical collections, the reserve books and textbook reserves, circulation services, an extensive reading room, and photocopiers. The balcony houses the open-stack general book collections and individual study carrels. Non-print materials are available at the service desk in the Library Learning Center on the lower level; listening/viewing stations are also situated in the LLC.

As a member of the Peninsula Library System (PLS is a county-wide consortium involving all of the public libraries and the three college libraries), the Library offers access to more than 2.5 million items. These resources are made available through the Dynix online database operated by PLS. Items at any one of 33 sites throughout the county can be borrowed by a CSM patron, and can be delivered to the user at any site. Home computer access to the database is also provided.

The CSM Library owns more than 85,000 volumes of books, receives more than 300 current magazines and newspapers, and provides access to a wide range of electronic sources, resources and files in the Information Commons. Internet access is also available at terminals in the IC. Of special interest is the U.S. Governments 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 resources and

materials. Assistance with all of the many types of information resources is always gladly provided by Library staff.

Basic information about services, policies, resources, and hours of service (which vary according to the academic calendar) is available in the Library or at the Library's web page (www.pls.lib.ca.us/smcccd/csm/csm.html) or through the College's web page (www.smcccd.cc.ca.us/smcccd/csm/csm.html).

Library Learning Center

The Library Learning Center, located in the lower level of the Library, is home to several important instructional support services available to CSM students: Tutoring Center, Open-Access Computer Lab, Language Lab, and Distance Learning Center. Basic information about each of these services and hours of availability is available in the LLC or at the Library web page (www.pls.lib.ca.us/smcccd/csm/csm.html) or through the College's web page (www.smcccd.cc.ca.us/smcccd/csm/csm.html).

Tutoring Center

The Tutoring Center assists and supports students who need help with specific classes and subjects by providing one-to-one and small group peer tutoring sessions. Student tutors work with students on a regular basis to review, help build study skills and comprehension, and to help prepare for tests and exams. Interested students can sign up for appointments in the Center (located in the Library Learning Center, on the lower level of the Library). Information about drop-in group sessions is also available in the Center.

Students interested in working as a student tutor should contact the Tutoring Coordinator.

KCSM TV and FM

KCSM TV and FM are Bay Area public broadcasting stations licensed to the college district and operated by College of San Mateo. They serve as the laboratory for several Broadcast and Electronic Media courses and also employ students. CSM has the only professional TV and FM stations with educational licenses in Northern California. KCSM TV broadcasts on UHF Channel 60 and KCSM radio broadcasts on 91.1 on the FM band. KCSM also operates a public

access cable channel, SAMNET, for San Mateo County.

Studios for both KCSM TV and FM are located on the lower floor of the Library building. Station facilities are made available through the Broadcast and Electronic Media department for the training of students in broadcast skills. Also, KCSM-TV broadcasts a wide range of credit courses. These distance learning courses 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.

Student Services

Administration

Vice President, Student Services
Patricia L. Griffin

Dean of Admissions and Records
John F. Mullen

Dean of Articulation and Research
John J. Sewart

**Dean of Counseling/Advising
and Matriculation**
David A. White

Programs and Services

Assistant Registrar
Joanne L. Dunbar

Career Development Center
Elaine Burns

Child Development Center, Coordinator
Louise Piper

**Disabled Students Programs and Services
Specialist**
Joan Hare

Financial Aid Officer
Steve Myrow

Health Services
Sharon Bartels

High Tech Center Specialist
Carolyn Fiori

International Student Advisor
Gerald J. Frassetto

Learning Disabilities Specialist
Marie Paparelli

Multicultural Center Coordinator
Adrian Orozco

**Permanent Resident Student Advisor
(Immigrant Students)**
Modesta Garcia

**Program Director, Extended Opportunity
Programs and Services (EOPS)**
Adrian Orozco

Psychological Services
Lawrence T. Stringari

Re-Entry Program
Elaine Burns

Student Activities Coordinator
Stephen Robison

Supervisor of College Security
(to be announced)

Transfer Center
Aisha Upshaw

Academic Advisors/ Counselors

Administration of Justice
Durella Combs
Carolyn Ramsey

Aeronautics
Steve Cooney

Apprenticeship Programs
Roy Brixen

Architecture
Paul Zimmerman

Art
Janet Black

Broadcasting Arts
George Mangan

Business
Rick Ambrose
Patricia Brannock
Jacqueline Gamelin
William Janssen
Rosemary Piserchio
Janice Willis

CARE Program
Ruth Turner

Computer and Information Science
Jacqueline Gamelin
Cathleen Kennedy
Janice Willis

**Concurrent Enrollment Program (High
School Students)**
Steve Morehouse

Cosmetology
Agnes Williams

Dental Assisting
Elizabeth Bassi

Drafting/Technical Art and Graphics
Dean Chowenhill

Electronics Technology
Roy Brixen

Engineering
Cathleen Kennedy
Mikael Kroencke
Barbara Uchida

EOPS
Ruth Turner

ESL (Non-native English Speakers)
Sylvia Aguirre

Film
George Mangan

Fire Science
(to be announced)

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
Arnett Caviel
John Fiedler
Anita Fisher
Modesta Garcia
Martha Gutierrez
Steve Morehouse
Carolyn Ramsey

Horticulture
Janet Black
Michael DeGregorio

**Immigrant (Permanent Resident)
Students**
Sylvia Aguirre

International Students
Gerald Frassetto

Language Arts
(English, Foreign Languages,
Journalism, Speech)
John Fiedler
Linda Scholer

Life Science
Michael DeGregorio
Barbara Uchida

Mathematics
Cathleen Kennedy

Medical Assisting
Rosemary Piserchio

Multicultural Center
Sylvia Aguirre

Music
George Mangan

Nursing
Linda Hand
Ruth McCracken

Physical Education
Larry Owens

Physical Science
Linda Hand

Real Estate
William Janssen

Social Science
Anita Fisher

Transfer Center
Aisha Upshaw

Transition to College
Dee Howard

**Welding, Machine Tool, and
Manufacturing Technology**
Durella Combs

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.

Day students are assigned to a counselor/advisor who is knowledgeable about the student's field of interest or major based upon the number of units in which they are enrolled. 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 4 p.m. Monday through Friday for counseling assistance and no appointment is necessary (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 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. 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; 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, Building 1, Room 226 (574-6396).

CARE Program

The CARE Program (Cooperative Agencies Resources for Education) is the combined effort of the College of San Mateo and the Human Services Agency.

The goals of the CARE program are to assist single parents receiving CalWORKS (formerly known as AFDC) to increase their educational skills, become more confident and self-sufficient, and move from welfare to independence. Support services include: child care, transportation, tutoring, peer advising, parenting workshops, books and supplies.

For more information, contact Ruth Turner in the EOPS Office, Building 20, Room 107 (574-6154).

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. 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 are available in the Career Development Center.

Through electronic media such as the Internet, students are able to access current bulletins and career descriptions, as well as salary levels and the employment outlook for specific job types. Reference books such as the Occupational Outlook Handbook which gives detailed descriptions of over 12,000 occupations, are available.

The catalog section of the Center includes catalogs from virtually every college and university in California, popular out-of-state colleges and universities, and foreign study catalogs and programs. The computerized/CD-ROM 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 brochure of scheduled events is available in the Career Development Center at the beginning of each semester. These events and classes are designed to provide information to assist students in their academic preparation, career selection, job-hunting, or to enhance current job skills. Any member of the student body, staff or community is invited to attend. 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 science building overlooking the Bay, provides a comprehensive child development program as a service to assist students who have young children ages 2½ through 5. The Center is open from 7:30 a.m. to 5 p.m. daily. Currently, tuition fees for children 2½ years to 3 years old are: part-time (less than 5½ hrs. per day) \$25.50 per day; full-time (5½ hrs. or more) \$34 per day. Tuition fees for children 3 to 5 years old are: part-time \$18 per day; full-time \$24 per day. In addition, there is a \$15 registration fee each semester. All fees are subject to change. Some families may be eligible for financial assistance for child care. Eligibility is determined by family's gross monthly income and number in the family. Priority is given to low-income students. For information, contact Louise Piper in the Child Development Center, Building 33, 574-6279.

Disabled Student Services

Students entering college with disabilities who need assistance should contact staff for a pre-enrollment interview to determine support services needed. The **Disabled Student Center** provides counseling, note taking, reader services, mobility assistance, special parking permits, assistance with classroom access, orientation to the campus, text accommodations, and referral to campus resources. For more information contact Joan Hare in the Disabled Student Center, Building 16, Room 151 (574-6438).

The **Learning Disabilities Assessment Center** offers students with possible learning disabilities individual educational assessment, support services, and assistance with educational planning. Students who suspect or know they have a learning disability can 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, study 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** offers assistance with computer access on campus and specialized training in the use of hardware and software adaptations appropriate to a particular student's disability. 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 (574-6469), or Mikel Schmidt (574-6447), Adapted Physical Education, Gymnasium, Building 8, Room 109A.

The **Transition to College Program** provides educational support for students with psychological disabilities. The program offers disability-related counseling, academic advising, special emphasis classes, peer support groups, and liaison with community providers. Contact Dee Howard in Building 15, Room 127 (574-6487).

Employment Services

The Student Employment Office assists CSM students and alumni to find jobs. Staff maintain listings and have information on all types of positions: part-time, full-time, summer, and career. Students are encouraged to seek a job related to their interests, major, and life ambitions. The Student Employment Office is located in the Career Development Center in the Student Center, Building 5. The office is open from 9 a.m. to 3 p.m., Monday through Thursday (closed Friday). Telephone: 574-6151.

In addition, a bulletin board of current job openings is located just outside the Career Development Center. Additional job listings through JOBTRAK are available in the Career Development Center (Building 5) from 8 a.m. to 8 p.m. Monday through Thursday; and 8 a.m. to 4:30 p.m. on Friday. Two valuable websites are also recommended to students: JOBTRAK job listings and related information can be accessed at <http://www.jobtrak.com> using the password CSMJOBS; and Cal-JOBS can be accessed at <http://www.jobs1.cahwnet.gov> to submit resumes and check job listings.

Extended Opportunity Programs and Services (EOPS)

Funded by the State of California and the San Mateo County Community College District, EOPS is an exclusive support service available for full-time students who are determined by EOPS to be in need of additional services in order to successfully pursue their educational and vocational goals. Among the more notable benefits offered are 1) transfer application fee waivers, 2) book service, and 3) additional counseling and tutoring time and informational opportunities in the form of workshops, correspondence and college field trips.

In order for a student to be considered for the EOPS program, the following criteria must apply: 1) full-time (12 units) enrollment, 2) qualification to receive the Board of Governors Enrollment Fee Waiver (BOGW), 3) completion of fewer than 70 college-level units, and 4) meet the educational and low income definition as determined by the EOPS guidelines.

Interested students should visit the EOPS office located in Building 20, Room 107, or call 574-6154. Office hours are Monday through Friday, 8 a.m. to 4:30 p.m.

Health Services

The Health Center offers the following services: health assessments, evaluation and counseling on health issues; first aid and emergency care; emergency transportation; temporary rest area; referrals to health, physician, and community services; screening procedures (upon request) for hearing and vision tests, blood pressure, and tuberculin skin test; health education information and pamphlets; stress management program; and referrals for Adaptive P.E., DSP&S, and Psychological Services.

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.

The Health Center is located in Building 1, Room 226, 574-6396. Office hours are 8 a.m. to 8 p.m., Monday through Thursday, and 8 a.m. to 4:30 p.m. on Friday.

Alcohol and Other Drug Program (SPARK)

The SPARK (Support, Prevention, Awareness, Responsibility, Knowledge) alcohol and other drug program is a 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, intervention and counseling. For more information please contact Sharon Bartels, Health Services coordinator, Health Center, Building 1, Room 226 (574-6396).

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.

Voluntary medical & dental insurance may be purchased by students who are not covered by their own or parents' policies. Application and claim forms are available in the Health Center.

Language Arts Centers

Located on the second floor of Building 18, the Language Arts centers provide learning assistance for CSM students.

The Language Arts **Computer Writing Center** is used as an interactive classroom for certain English courses and courses for non-native speakers of English and as an open lab. Thirty Macintosh computers with Internet capability enable students to research the Web, to use multimedia instruction, and to write and revise their essays and assignments. An English instructor is available for writing conferences and individualized tutorial instruction. (Building 18, Room 188; 547-6431)

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 191; 574-6436)

The **Reading Center** offers individualized 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 **Speech Lab** offers one-on-one, individualized attention for students enrolled in Speech Communication courses. Students receive assistance in topic selection and development, outlining, delivery, and critiquing of presentations. Video taping and playback of speeches are available for students requesting instructor feedback. Speech books, journals, videos, CDs, and computers are available as resources. (Building 18, Room 189)

The **Learning Disabilities Assessment Center** and the **High Tech Center** are also located on the second floor of Building 18. For further information, see **Disabled Student Services** on page 37.

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 center 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 (574-6154).

Psychological Services

Psychological Services offers confidential individual consultation regarding personal concerns. Also available are: group counseling, seminars, 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, or by calling 574-6396.

Additionally, Psychological Services provides special supports to students with psychological disabilities through the Transition to College program. Contact Dee Howard in Building 15, Room 127 (574-6487).

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.

CSM students who have completed at least 12 college units and who have maintained a cumulative G.P.A. of 2.75 or above are encouraged to apply. Both students returning to and transferring from CSM the following fall are eligible. These scholarships are awarded to students in a wide variety of majors. Scholarships are awarded on the basis of academic achievement and are, for the most part, not need-based. In addition, a number of local and national organizations offer scholarships to CSM students. Eligibility requirements vary widely and require applications. Applications are generally available the beginning of November and due by the end of January. For specific dates and additional information contact the Office of Special Programs and Services, Building 1, Room 271 (574-6434).

Testing Services

The Testing Center, located in Building 1, Room 130, conducts the college placement testing program and provides other self-assessment instruments in the center and in cooperation with the Career Development Center.

Self-assessment instruments covering areas of interest (i.e., Strong Interest Inventory); personality type as it relates to communication, learning, and work style (i.e., Myers-Briggs Type Indicator); values; goals; and some skill areas are given in the Career Development Center and in the Career and Life Planning classes.

Career assessment, including occupational interest, values, and skill assessment, are available to assist students with decisions concerning career choices. Combinations of test scores and interest patterns create profiles unique to each person. Students who are undecided about their major, as well as those who would like to verify established goals, may find these services valuable as a source of motivation and in the identification of educational objectives and occupational choices. Career assessment is also available through many Career and Life Planning classes (e.g., CRER 430: Career Exploration, CRER 133: Career Choices).

Study Skills testing and assessment are offered by appointment during the semester in the Career Development Center, during scheduled Transfer Center workshops, and on a drop-in basis. Results are available for discussion with a counselor/advisor.

Special testing and assessment for students with physical, psychological, visual, communication or learning disabilities is available through the Disabled Students Center, Building 16, Room 151, or by calling 574-6438. Students who require special accommodations for placement testing due to a specific disability are asked to contact both the Disabled Students Center and the Testing Office at least two weeks prior to their scheduled placement testing date to coordinate special accommodations and services. All regularly scheduled placement testing sessions are wheelchair accessible.

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 to transfer to a four-year college or university. Students are advised to discuss their placement test results with a counselor/advisor so that, in combination with other relevant information (e.g., previous academic record), they can assist students in determining their academic program and in the development of an educational plan.

ESL placement testing for students who speak English as a second language is given at each regularly scheduled placement testing session. Placement recommendations for Non-Native Speakers of English are based on the results of special English and reading tests for non-native speakers of English. Other students who have questions about ESL tests are encouraged to contact the Multicultural Center, Building 20, Room 107 (574-6154).

Students may take the English and reading test once. They may repeat the same level math test one time only. No fee is charged for 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. For information regarding special exceptions to the policies explained above, please contact the Testing Office at 574-6175. Any student wishing to request exemption from the placement test requirement should contact the Office of the Vice President for Student Services, Building 1, Room 273.

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 prerequisites 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 required to take the appropriate SMCCCD placement test or present proof to their mathematics instructor that they have successfully completed (grade of C or higher) courses at an accredited college or university which are equivalent to the SMCCCD prerequisites as listed in the catalog and class schedule. Taking the mathematics placement test is appropriate when a student has not taken a math course for several years. Students may repeat the same level mathematics test one time only. CSM does not accept alternate placement test scores for mathematics placement.

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

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, transfer planning, writing the application essay, choosing a college, and completing transfer admission applications. The Transfer Center also schedules representatives from other universities and colleges, including UC, CSU and private universities, to meet with students on a regular basis. CSM has Transfer Admission Agreements with a number of four-year institutions which can guarantee transfer admission. For more information call 358-6839.

Transition to College

The Transition to College program offers students with psychological disabilities the following services: academic advising, disability-related counseling, peer counseling, assistance with registration and financial aid applications, liaison with instructors and community providers, and specialized instruction. Specialized instruction consists of classes designed to provide college and career orientation, academic and social skills development, disabilities management, and student success strategies. For more information, contact Dee Howard, Building 15, Room 127 (574-6487).

Tutoring Center

See page 34.

College of San Mateo Placement Tests

- MDTP (Mathematics Diagnostic Testing Project) for mathematics course placement.
- APS (Assessment and Placement Services for California Community Colleges) - for English, reading and vocabulary placement.
- ESL Writing Test - for non-native speakers of English (ESL).
- SLEP (Secondary Level English Proficiency Test) - for reading and conversation speech course placement for non-native speakers of English (ESL).

Interpreting placement test results.

Placement tests are intended to measure skills which research have shown to be closely related to academic success. Test results represent student strengths and capabilities as measured by these tests. While no placement test score by itself can exclude a student from enrolling in any particular course, these tests do provide one of the most effective means for measuring a student's knowledge of English, reading, and mathematics. Students are advised to discuss their placement results with a counselor/advisor so that, in combination with other relevant information (e.g., previous academic record), they can assist them to determine their academic program and to develop an educational plan.

Refer to the course listing in this catalog for titles, descriptions and prerequisites for the courses in the following placement charts. Students are encouraged to consult with a counselor/advisor regarding course selection and planning.

College of San Mateo Course Placement Guides

Mathematics Course Placement Guide

If you took SMCCCD Assessment:	and Scored:	You can take the following Math course(s):
Test 1 (Pre-Algebra)	0 to 20	BUS. 810, MATH 811
Test 1 (Pre-Algebra)	21 to 25	BUS. 810, MATH 111
Test 1 (Pre-Algebra)	26 to 50	BUS. 115, MATH 110, 111
Test 2 (Elementary Algebra)	0 to 20	Return and take Test 1
Test 2 (Elementary Algebra)	21 to 50	MATH 115, 120, 122
Test 3 (Intermediate Algebra)	0 to 20	Return and take Test 2
Test 3 (Intermediate Algebra)	21 to 45	MATH 125, 130, 200, 222, 231, 241
Test 4 (Pre-Calculus)	0 to 19	Return and take Test 3
Test 4 (Pre-Calculus)	20 to 40	MATH 251

Refer to the Description of Courses section of this catalog for titles, descriptions, and prerequisites for the courses listed in the Placement Guide above. Students are encouraged to consult with a counselor/advisor regarding course selection and planning.

English Course Placement Guide

English course placements are based on a combination of two test scores (Writing and Reading Comprehension). The most common placements are listed below.

If you have a Writing score of:	and a Reading score of:	You can take the following English course(s):
11 to 14	11 to 13	ENGL 801 Basic Writing Skills
15 to 19	14 to 15	ENGL 811 Intermediate Reading, Interpreting and Composition
20 to 22	16 to 22	ENGL 800 Writing Development
23 to 26	23 to 35	ENGL 100/101 Composition and Reading with Practicum
27 to 40	23 to 35	ENGL 100 Reading and Composition

More detailed information on the determination of English course placements is available in the Testing Office (Building 1, Room 130) during day hours, and in the Career Development Center (Building 5, Room 128) on Monday - Thursday evenings.

Reading Course Placement Guide

If you have a Reading Score of:	It is recommended that you take the following Reading course:
0 to 5	READ 812 Individualized Reading Improvement
6 to 10	READ 800 Developmental Reading
11 to 15	READ 801 Reading Improvement
16 to 22	READ 802 Academic Reading Strategies
23 to 25	READ 420 Speed and Effective Reading
26 to 35	READ 420 (optional) Speed and Effective Reading

Vocabulary Course Placement Guide

If you have a Reading Score of:	It is recommended that you take the following Vocabulary course:
3 to 8	READ 808 Basic Phonics Skills
9 to 12	READ 809 Attack Strategies
13 to 35	No Vocabulary Course Recommended

English as a Second Language Course Placement Guides

Speech

Test Score	Speech Course
0 to 30	SPCH 841
31 to 41	SPCH 842
42 to 52	SPCH 843 (<i>SPCH 848 optional</i>)
53 to 75	SPCH 844 (<i>SPCH 848 optional</i>)

Reading

Test Score	Reading Course
0 to 19	See Placement Guide ¹
20 to 30	READ 841, 807
31 to 41	READ 842, 807
42 to 75 ²	READ 843 (<i>READ 809 optional</i>)

Writing

English Course Placement³

See Placement Guide ⁴	
ENGL 841	ENGL 843
ENGL 842	ENGL 844 ²
	ENGL 400 ²

¹ An ESL *Reading* placement of “See Placement Guide” means that your English *reading skills* are below the recommended level for ESL reading classes offered at College of San Mateo. You are encouraged to enroll in and complete the Speech and/or English (writing) courses in which you are placed prior to enrolling in Reading 841 and 807.

² If you placed in English 844 or English 400 and achieved a score of 53 or above on the *ESL Reading Test*, it is recommended that you take the English Placement Test (for native speakers) for reading placement. Consult the schedule of classes for test dates. For further information, call the Testing Office at 574-6175.

³ Writing placement for Non-Native Speakers of English (e.g., English 841, 842, 843, 844, and English 400) is determined by evaluation of the ESL Writing Sample. It is not uncommon for students to place at different writing, reading and speech levels.

⁴ An ESL *English* placement of “See Placement Guide” means that your English *writing skills* are below the recommended level for placement in ESL English (writing) classes offered at College of San Mateo. You are encouraged to enroll in and complete the Speech and/or Reading courses in which you placed prior to enrolling in English 841.

Alternate tests used for test waiver and/or credit:

The English test requirement will be waived, and eligibility for English 100 received, for students with a minimum score on one of the following tests:

Test	Minimum Score
SAT-I Verbal	500/580*
SAT-II Writing Subject Test	600/660*
ACT English Usage Test	23
CSU English Placement Test	150
AP English Language and Composition Test	3, 4, or 5
AP English Literature and Composition Test	3, 4, or 5

* Use first score listed if test was taken prior to May 1995. Use the second score if test was taken during or after May 1995.

The Mathematics test requirement will be waived for students with a minimum score on one of the following tests:

Test	Minimum Score
AP Calculus AB	4 or 5
AP Calculus BC	3, 4, or 5

See page 33 for more information regarding AP credit.

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. In addition to completing transfer requirements, students may also 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 admission applications, writing the application essay, 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

reference 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 Monday 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 Preparation for the Major.** These courses, which should be completed before transferring, provide the necessary background and preparation in order for the student to transfer into their major as a junior. 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 applications 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.

The California State University has twenty-two campuses: Bakersfield, California Maritime Academy, Chico, Dominguez Hills, Fresno, Fullerton, Hayward, Humboldt, Long Beach, Los Angeles, Monterey Bay, 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 49 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, 103, 121, 131, 142, 641, 680-689, 690
- Administration of Justice** 100, 102, 104, 105, 106, 108, 120, 125, 145, 153, 641, 680-689, 690
- Aeronautics** 100, 130, 300, 301, 310, 311, 320, 321, 330, 331, 340, 341, 350, 351, 360, 361, 370, 371, 641, 680-689, 690
- American Sign Language** 111, 112, 680-689, 690
- Anthropology** 105, 110, 120, 180, 350, 360, 370, 680-689, 690
- Arabic** 111, 112, 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, 241, 242, 301, 305, 328, 330, 349, 350, 351, 352, 353, 354, 355, 360, 365, 366, 367, 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, 195, 200, 210, 220, 230, 240, 250, 260, 265, 266, 641, 666, 675, 680-689, 690
- Broadcast and Electronic Media** 100, 110, 112, 120, 131, 132, 194, 231, 232, 242, 243, 244, 250, 641, 680-689, 690
- Business** 100, 101, 102, 115, 131, 133, 140, 150, 155, 156, 170, 175, 180, 201, 295, 305, 315, 316, 317, 318, 326, 401, 641, 680-689, 690, 701, 702, 705, 711, 720
- Business DOS Applications** 114, 115, 502, 504, 511, 512, 680-689
- Business Windows Applications** 105, 114, 115, 124, 125, 204, 205, 214, 215, 313, 323, 383, 384, 405, 406, 407, 415, 416, 417, 464, 530, 534, 591, 680-689
- Career and Life Planning** 101, 102, 103, 112, 137, 138, 140, 141, 142, 401, 402, 404, 406, 410, 430, 680-689
- Chemistry** 100, 101, 192, 210, 220, 224, 225, 231, 232, 250, 410, 420, 680-689, 690
- Chinese** 111, 112, 121, 122, 131, 132, 134, 680-689, 690
- Computer and Information Science** 110, 115/116, 150, 152, 154, 155, 156, 157, 160, 170, 171, 240/241, 250/251, 252/253, 290/291, 304/305, 308/309, 312, 313, 350/351, 372/373, 376, 378, 641, 680-689, 690
- Consumer Arts and Science** 310, 641, 680-689, 690
- Cooperative Education** 641, 645, 647, 650 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, 124, 130, 140, 150, 641, 680-689, 690
- Earth Systems** 100, 140, 150, 680-689, 690
- Economics** 100, 102, 123, 680-689, 690
- Education** 100, 101, 680-689
- Electronics** 100, 110, 201, 202, 210, 215, 216, 217, 218, 220, 230, 231, 232, 260, 275, 280, 302, 310, 320, 330, 346, 351, 360, 362, 370, 386, 641, 680-689, 690, 731
- Engineering** 111, 210, 230, 260, 270, 641, 666, 680-689, 690
- English** 100, 101, 110, 120, 130, 140, 161, 162, 163, 164, 165, 195, 400, 641, 680-689, 690
- Ethnic Studies** 101, 102, 150, 151, 152, 160, 261, 262, 288, 290, 300, 350, 351, 425, 430, 440, 585, 680-689, 690
- Film** 100, 101, 102, 103, 104, 105, 106, 110, 120, 121, 200, 461, 462, 464, 465, 466, 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, 125, 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, 425, 680-689, 690
- Horticulture** 311, 312, 315, 320, 325, 326, 327, 330, 340, 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
- Human Services** 100, 110, 115, 680-689, 690
- Humanities** 101, 102, 111, 112, 114, 125, 127, 128, 131, 133, 136, 140, 680-689, 690
- Italian** 110, 111, 112, 115, 116, 117, 118, 120, 121, 122, 680-689, 690
- Japanese** 110, 111, 112, 120, 121, 122, 680-689, 690
- Journalism** 110, 120, 300, 641, 680-689, 690
- Library Studies** 100
- Literature** 101, 105, 111, 113, 115, 143, 151, 153, 201, 202, 231, 232, 240, 251, 265, 271, 272, 273, 430, 680-689, 690
- Machine Tool Technology** 200, 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, 120, 641, 680-689, 690
- Mathematics** 125, 130, 200, 222, 231, 241, 242, 251, 252, 253, 270, 275, 680-689, 690
- Medical Assisting** 110, 115, 140, 190, 641, 680-689, 690
- Meteorology** 100, 101, 680-689, 690
- Military Science** 1-2, 1a-b, 12a-b
- Multimedia** 110, 120, 125, 130, 140, 150, 155, 220, 225, 230, 240, 245, 250, 260, 311-320, 350, 370, 380, 680-689, 690
- Music** 100, 101, 102, 103, 104, 131, 132, 133, 134, 202, 240, 250, 275, 290, 291, 292, 293, 301, 302, 303, 304, 320, 371, 372, 373, 374, 401, 402, 403, 404, 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
- Philosophy** 100, 160, 175, 244, 246, 300, 300, 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, 211, 220, 221, 250, 260, 270, 680-689, 690
- Political Science** 100, 110, 130, 150, 170, 200, 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, 430, 440, 450, 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, 309, 310, 313, 315, 316, 680-689, 690
- Sociology** 100, 105, 110, 141, 200, 300, 340, 391, 680-689, 690
- Spanish** 110, 111, 112, 115, 116, 117, 118, 120, 121, 122, 131, 132, 140, 161, 162, 251, 680-689, 690
- Speech Communication** 100, 101, 111, 112, 120, 140, 150, 170, 680-689, 690
- Technical Art and Graphics** 101, 110, 120, 125, 130, 131, 140, 141, 170, 171, 180, 185, 220, 235, 240, 250, 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*+

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

+ Note: Must be taken for letter grade to transfer.

Anthropology 105, 110, 180, 360, 370

Arabic 111*+, 112*+

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

+ Note: Must be taken for letter grade to transfer.

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, 241, 242, 301, 305,

330, 349, 351, 352, 353, 405, 406, 411, 412

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, 195, 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.

@ Note: Must be taken for letter grade to transfer.

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

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.

English 100, 110, 120, 130, 140, 161, 162, 163, 164, 165, 400

Ethnic Studies 101, 102, 150, 151*, 152, 160, 261, 262, 288, 290, 300, 350, 351, 425, 430, 440, 585

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

Film 100, 120, 121, 200, 461*, 462*, 466

* 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.

^ Note: Must be taken for letter grade to transfer.

Geography 100, 110

Geology 100*, 101, 125, 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.

@ Note: Must be taken for letter grade to transfer.

Health Science 100

History 100+, 101, 102*, 103+, 110, 201*, 202*, 242, 260, 270, 310, 350, 360, 425

* 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, 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 110#, 111*# and 112*#, 120#, 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 transfer.

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.

Note: Must be taken for letter grade to transfer.

Journalism 110

Library Studies 100

Literature 101, 105, 111, 113, 115, 143, 151, 153*, 201, 202, 231, 232, 240, 251, 265, 430

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

Mathematics 125, 200*, 222#, 241+, 242+, 251+, 252+, 253+, 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, 101

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

* Note: Credit limited to 4 units.

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

* Note: No credit for MUS. 100 if taken after MUS. 101 or 131.

Oceanography 100, 101

Philosophy 100, 160, 175, 244, 246, 300, 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+, 211+, 220+, 221+, 250+, 260+, 270+

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

+ Note: Credit limited to PHYS 210/211/220/221 or 250/260/270.

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, 110@, 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 110 or SOCI 110.

+ 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

Sociology 100, 105, 110+, 141*, 200, 300, 340

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

+ Note: Credit limited to either SOCI 110 or PSYC 110.

Spanish 110*@, 111*@ and 112*@ and 120+@, 121+@, 122+@, 130#@, 131#@, 132#@, 140@, 161@, 162@, 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.

@ Note: Must be taken for letter grade to transfer.

Speech Communication 100, 111, 112, 140, 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

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 1999: Nov. 1-30, 1998

Winter Quarter 2000: July 1-31, 1999

Spring Quarter 2000: Oct. 1-31, 1999

UC Berkeley only

Fall Semester 1999: Nov. 1-30, 1998

(Applications accepted for Fall only.)

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 49 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 Communication

Speech Communication 100 (3), 120 (3), 140 (3), 150 (3)

A2 – Written Communication

English 100 (3), 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 San Francisco State University, San Jose State University, California State University Hayward, Dominguez Hills, Sacramento, or Stanislaus can take either 1) ENGL 165, which also meets the CSU graduation requirement of a second semester of English, or 2) SOSOC 111 and one of the following: ENGL 110, 120, 130, or 140, the combination of which also meets the graduation requirement of a second semester of English and counts for 3 units of credit in Area C below.

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), *101 (1), *210 (5), *224 (4), *410 (4)

Geography 100 (3)
Geology 100 (3), *101 (1), *125 (4), *210 (4)
Humanities 127 & 128 (3)+
Meteorology 100 (3), *101 (1)
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)
Psychology 105 (3)

B4 – Math Concepts, Quantitative Reasoning and Application

Computer & Information Science 240/241 (4), 250/251 (4)
Economics 123 (4)
Mathematics 125 (3), 130 (3), 200 (4), 222 (5), 241 (5), 242 (3), 251 (5), 252 (5), 253 (5), 270 (3), 275 (3)
Psychology 121 (3)

+ If both HUM 127 and 128 are completed, credit is limited to 3 units in Area B1. The additional 3 units will be counted in Area C.

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), 349 (3), 350 (3), 351 (3)
Ethnic Studies 288 (3), 585 (3)
Film 100 (3), 110 (3), 120 (3), 121 (3), 200 (3), 461 (4), 462 (4), 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), 164 (3)
Ethnic Studies 350 (3), 351 (3), 440 (3)
Film 463 (1), 466 (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), 114 (3), 125 (3), 127 (3), 128 (3), 131 (3), 133 (3), 136 (3), 140 (3), 675 (1), 676 (1)
Italian 110 (5), 111 (3), 112 (3), 121(3), 122(3)
Japanese 110 (5), 111 (3), 112 (3), 120 (5), 121 (3), 122 (3)
Literature 101 (3), 105 (3), 111 (2), 113 (3), 115 (3), 143 (3), 151 (3), 201 (3), 202 (3), 231 (3), 232 (3), 240 (3), 251 (3), 265 (3), 271 (1), 272 (1), 273 (1), 430 (3)
Philosophy 100 (3), 160 (3), 175 (3), 244 (3), 300 (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), 251 (3)
Speech Communication 111 (3), 112 (3), 170 (3)

AREA D: Social, Political, and Economic Institutions.

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

Anthropology 105 (3), 110 (3), 120 (3), 180 (3), 350 (3), 360 (3), 370 (3)
Broadcast and Electronic Media 110 (3)
Earth Systems 100 (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), 300 (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), 425 (3)
Humanities 125 (3)
Political Science 100 (3), 110 (3), 130 (3), 150 (3), 170 (3), 200 (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 Communication 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), 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), 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.

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.

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

*Group B: Critical Thinking

ENGL 165

SOSC 111

Group C: Oral Communication

SPCH 100, 140, 150

* Also satisfies UC's requirement for a second composition course.

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

PSYC 121

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 ART 101, 102, or 103 may not use ART 100 to meet this requirement for UC.

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

Arts Courses

ART 100, 101, 102, 103, 105, 349

ETHN 288, 585

FILM 100, 200

MUS. 100, 202, 240, 250, 275

Humanities Courses

CHIN 131, 132

ETHN 350, 351, 440

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

GERM 120, 130, 131, 132, 140

HIST 100, 101, 102

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

ITAL 120

JAPN 120

LIT. 101, 105, 113, 115, 143, 151, 201, 202, 231, 232, 240, 251, 430

PHIL 100, 160, 244, 246, 300, 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, 120, 180, 360, 370

ECON 100, 102

ETHN 101, 102, 150, 151, 152, 160, 261, 262, 290, 300, 351, 425, 430, 440

GEOG 110

HIST 110, 201, 202, 242, 260, 270, 310, 350, 360, 425

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

PSYC 100, 105, 110, 200, 201, 300, 410

SOCI 100, 105, 110, 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), *101 (1), *210(5), *224(4)
 GEOG 100(3)
 GEOL 100(3), *101(1), *210(4)
 METE 100(3)
 OCEN 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), 160(3), 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) satisfactory completion of college coursework in a foreign language equivalent to two years of high school instruction; (3) satisfactory score in SAT II—Foreign Language Subject Test; (4) satisfactory score in the AP examinations in Foreign Language; (5) satisfactory score in the International Baccalaureate Higher Level examinations; (6) satisfactory completion of two years of formal schooling at 6th grade level or higher where the language of instruction is not English; or (7) 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
 ITAL 120, 122
 JAPN 120, 122
 SPAN 120, 122, 130, 131, 132, 140, 161,
 162, 251

- 1) A course taken to fulfill this UC requirement may **not** also be used toward meeting the Area 3 (Arts and Humanities) requirement.
- 2) All foreign language courses must be taken for letter grades.

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, 210, 212, 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.

Other UC Requirements

Because 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 Transfer 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. Students must earn at least a 2.40 overall GPA to be **minimally eligible** to transfer. 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.

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 (See pages 90-121.)

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.

UC Graduation Requirements

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

UC Campus -Specific Information

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 Colleges of Engineering, Environmental Design, Chemistry and Natural Resources, and the Haas School of Business all have extensive and very prescribed major requirements. Consequently, the IGETC is not appropriate for majors in these colleges.

Applicants to the College of Letters and Science can follow the IGETC, keeping in mind that preparation for the major is very

important. Berkeley requires completion of IGETC by the end of the spring term before entering Berkeley in the fall.

Davis

The IGETC is not appropriate for students transferring to majors in the College of Engineering and the College of Agriculture and Environmental Sciences. In addition, majors in Biological Sciences, Psychology, and Environmental Policy Analysis and Planning are “high unit” majors with substantial 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, Eleanor Roosevelt 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.

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 & Crafts
College of Notre Dame
Dominican College of San Rafael
Golden Gate University
Hawaii Pacific University
Holy Names College
John F. Kennedy University
Menlo College
Mills College
Presidio World College
Santa Clara University
St. Mary's College
Stanford University
University of Houston-Victoria
University of Phoenix
University of San Diego
University of San Francisco
University of Southern California
University of the Pacific
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 and 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 & 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): MATH 241 or MATH 251

H. Humanities and Sciences Electives: Any courses transferable to CSU. BFA: Two Electives required; BArch: One Elective required.

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; HIST 100 or HUM 101, HIST 101 or HUM 102 (Students transferring with 45 or more units may take HIST 110, 201, 202, 242, 260, 270, 310, 315, 350 or 360 instead of HIST 101); 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: 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 OF SAN RAFAEL

General College Requirements:

A. Human Nature: One of the following: LIT 101, 201, 202, 231, 301, 302; PHIL 100, 244; PSYC 200, 201, 300; SOCI 300

B. Verbal Expression: ENGL 100

C. Natural World: One of the following: ASTR 100+101; BIOL 110, 111, 150, 200,

210, 220, 230, 240, 250, 260, 265, 266; CHEM 192, 210, 220, 224, 225, 231, 232, 250, 410, 420; GEOL 100+101, 210; OCEN 100+101; PALE 110; PHYS 210, 220, 250, 260, 270

D. Cross Cultural Perspective: One of the following: ANTH 105-370; ART 100-105; ETHN 101-150, 261-288, 350-585; GEOG 110; HIST 100-270, 350, 360; HUM 101-136; MUS 202, 240, 250; PHIL 160, 320; PLSC 100, 110, 170, 200, 210-310, 520; SOCI 100; SOSC 220, 221

E. Quantitative Reasoning: One of the following: ECON 123; MATH 125, 130, 200, 222, 231, 241, 242, 251-253, 268, 270, 275

F. Cultural Heritage: 12 units of CSU or UC transferable course work in the following disciplines: Anthropology, Literature, History, Political Science, Sociology, Art History, and Humanities.

G. Human Relationships: One of the following: ECON 100; PLSC 100, 130, 150, 205, 210, 212; PSYC 100, 105, 108, 110; SOCI 100, 105, 110, 200, 300, 340, 391; SPCH 120, 150

H. Creativity in the Arts: One of the following: ARCH 120, 130, 140, 145, 210, 220, 230, 240; ART 201-330, 351-355, 360, 405, 406, 411, 412; DANC 121-148; ENGL 161-163; FILM 461-463; MUS 301-304, 320, 371-374, 401-404, 430, 451-453, 470, 490; TA&G 201, 202, 210, 220.

Pathways Program Requirements:

A. The Human Spirit: PHIL 244, 246

B. Verbal Expression: ENGL 100

C. Natural World: One of the following: ASTR 100+101; BIOL 110, 111, 150, 200, 210, 220, 230, 240, 250, 260, 265, 266; CHEM 192, 210, 220, 224, 225, 231, 232, 250, 410, 420; GEOL 100+101, 210; OCEN 100+101; PALE 110; PHYS 210, 220, 250, 260, 270

D. Multicultural Perspectives Two of the following: ANTH 105, 110, 180, 370; ART 105; ETHN 101, 102, 150, 261, 262, 288, 350, 425, 430, 440, 585; GEOG 110; HIST 242, 260; HUM 131, 133, 136; LIT 251, 301, 302; MUS 240, 250; PHIL 320; PLSC 110, 130, 255, 260, 520; SOCI 141; SPAN 251

E. Quantitative Reasoning: One of the following: ECON 123; MATH 125, 130, 200, 222, 231, 241, 242, 251-253, 268, 270, 275

F. Western Cultural Perspectives: Two of the following: ART 100, 101-103; FREN 110-112, 115-117, 120-122, 130-132, 140, 161, 162; GERM 110-112, 120-122, 130-132, 140; HIST 100-103, 110, 201, 202, 270, 350, 360; HUM 101, 102, 111-114, 125, 127, 128; ITAL 111, 112, 121, 122; LIT 151, 153, 201, 231, 232, 430; PHIL 160; PLSC 100, 210, 212; SOSC 220, 221; SPAN 110-112, 120-122, 130-132, 140, 161, 162, 201, 202

G. Human Relationships: One of the following: ECON 100; PLSC 100, 130, 150, 205, 210, 212; PSYC 100, 105, 108, 110; SOCI 100, 105, 110, 200, 300, 340, 391; SPCH 120, 150

H. Creativity in the Arts: One of the following: ARCH 120, 130, 140, 145, 210, 220, 230, 240; ART 201-330, 351-355, 360, 405, 406, 411, 412; DANC 121-148; ENGL 161-163; FILM 461-463; MUS 301-304, 320, 371-374, 401-404, 430, 451-453, 470, 490; TA&G 201, 202, 210, 220

GOLDEN GATE UNIVERSITY

General Education/Liberal Studies Core Requirements [For All Majors: B.A., B.B.A., B.S.]:

A. Written Communication: ENGL 100 or 110

B. Oral Communication: SPCH 100

C. Quantitative Reasoning: B.A. patterns: MATH 120 or MATH 122, 123 or MATH 222; B.B.A. and B.S. pattern: MATH 222 and MATH 200 or ECON 123

D. Historical and Cultural Studies: [B.A. pattern: 9 units, one course from each group; B.B.A. and B.S. patterns: 6 units, one course from group 1, one course from group 2] *Group 1:* HIST 100 or 101; *Group 2:* HUM 101, 102

E. Social and Behavioral Sciences: *Group 1:* ECON 100, 102 (for B.B.A. & B.S.); ECON 100 or 102 or BUS 201 (for B.A.); *Group 2:* [B.A. pattern: two courses from the following; B.B.A. & B.S. patterns: one course from the following] ADMJ 125; ANTH 110; BIOL 125; HIST 201, 202, 310; PLSC 110, 130, 150, 200 or 210, 215, 220, 250, 310; PSYC 100, 108, 200, PSYC 300 or SOCI 300, PSYC 410; SOCI 100, 105, 200

F. Verbal and Creative Arts: [B.A. pattern: 3 courses from group 1, 2 or 3 with at most 2 courses from one group; B.B.A. & B.S. patterns: any 2 courses from group 1, 2 or 3] *Group 1:* BUS 295, JOUR 110; *Group 2:* LIT 143, 201, 202, 251, 302; *Group 1:* BUS 295, JOUR 110; *Group 2:* LIT 143, 201, 202, 251, 302; *Group 3:* ART 354, 355, MUS 250

G. Natural Sciences and Mathematics: [B.A. pattern: 2 courses, one from each group; B.B.A. & B.S. patterns: 3 courses, with at least one from Group 1] *Group 1:* BIOL 102, 125, GEOG 100; *Group 2:* MATH 241, 242, 268, 270, HUM 125

H. Analytic Methods: For B.A. & B.S. patterns, 2 courses from the following: PHIL 100, 244 and/or SOSC 111; For B.B.A. pattern, take SOSC 111

HAWAII PACIFIC UNIVERSITY

Students interested in transfer to Hawaii Pacific University should follow the CSU General Education pattern.

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

D. Foreign Language: Two courses which are 120 Level or higher

E. Mathematics: One course beyond high school Algebra and Geometry

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

JOHN F. KENNEDY UNIVERSITY

Students interested in transfer to John F. Kennedy University should follow the CSU General Education pattern.

MENLO COLLEGE

A. Western Culture: HUM 101, 102

B. English Usage: ENGL 100, plus two courses in addition to ENGL 100.

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 and 101; CHEM 192, 210, 220, 224, 225, 231, 232, 250; GEOL 100+101, 210, 220; OCEN 100+101;

I. Humanities: PHYS 210, 220, 250, 260, 270. 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, or completion of two upper division courses after transfer: 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

MILLS COLLEGE

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

PRESIDIO WORLD COLLEGE

General Education requirements for a B.A. in Globally Sustainable Development. Minimum of 32 semester units distributed across the following areas, with at least four units in each:

A. Written and Spoken Communication:

Two CSU or UC transferrable courses in English and Literature; one CSU and UC transferable course in Speech

B. Mathematics: Two courses at the level of MATH 120 or higher

C. Natural and Physical Science: One CSU or UC transferable course in Chemistry, one in Biology

D. Humanities: Two CSU or UC transferable courses in Ethnic Studies, Film, History, Humanities, Literature, Philosophy

E. Social Science: Two CSU or UC transferable courses in Anthropology, Economics, Geography, Psychology, Sociology

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. ENGL 100 and 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: 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.

Recommended:

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 or 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: ANTH 110; ECON 100, 102; PLSC 100, 110, 130, 150; PSYC 100, 201, 300; or SOCI 100, 105, 300.

H. Studio/performing art or music: One of the following courses: ART 201, 202, 223, 224, 301, 305; MUS 101, 102, 131, 132; or SPCH 100.

I. One course in ethnic or women's studies:

One of the following courses: ETHN 101, 102, 150, 151, 152, 160, 261, 262, 288, 290, 350, 351, 425, 430; HIST 260; or HUM 131, 132, 136.

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. ENGL 100 and 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: 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.

Recommended:

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 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 outside the major: ANTH 110; ECON 100, 102; PLSC 100, 110, 130, 150; PSYC 100, 201, 300; or SOCI 100, 105, 300.

H. Ethnic or women's studies: One of the following courses: 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: Required for graduation, but usually taken at Santa Clara.

Levey 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: CIS 110 or 115

I. Religious Studies, Ethics and a third course in English composition: Required for graduation, but usually taken at Santa Clara.

School of Engineering

A. ENGL 100 and 110

B. MATH 251 and 252

C. CHEM 224, 225 or 210, 220

D. PHYS 250

Recommended:

E. Two courses from one of the following sequences in Western culture: ART 101, 102, 103; HIST 100, 101; or HUM 101, 102.

F. MATH 253 and 275

G. PHYS 260 and 270

H. Two courses in social science: ANTH 110; ECON 100, 102; PLSC 100, 110, 130, 150; PSYC 100, 201, 300; or SOCI 100, 105, 300

I. Computer science: CIS 240

J. Computer-based graphics: ENGR 210

K. Statics: ENGR 230

L. Circuits: ENGR 260

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 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 HOUSTON-VICTORIA

A. English: ENGL 100 or 105 and ENGL 110
B. Literature: LIT. 201, 202, 231, 232, 301 or 302

C. U.S. History I: HIST 201

D. U.S. History II: HIST 202

E. American Politics: PLSC 210

F. Mathematics: MATH 125, 130, 222, 241 or any higher numbered math course

G. At least two semesters of physical education activities, band or military science courses: Not required for individuals 23 years or older upon admission, prior military service, or with waiver from a physician.

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 DIEGO

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

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

UNIVERSITY OF SOUTHERN CALIFORNIA

Students interested in transfer to University of Southern California should follow the UC pattern of CSM's Intersegmental General Education Transfer Curriculum (IGETC). Additional course work may be required; please contact a USC representative. Note: USC will not accept telecourses for credit.

UNIVERSITY OF THE PACIFIC

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

WESTMONT COLLEGE

A. Composition: ENGL 100

B. Mathematics: MATH 120 or 123

C. Foreign Language: Two years in high school or 2 semesters of one language at CSM at the 120 level or above.

D. Interdisciplinary Studies: HIST 100, 101

E. Breadth Requirements:

- 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
 - One of the following for Behavioral Science: ANTH 110; PSYC 100; SOSOC 100, 105
 - One of the following for Fine Art requirement: ART 101, 102, 103, 106, 108; FILM 451; HUM 101, 102; MUS 202, 275
 - 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
 - Philosophy: PHIL 100
 - Mathematics/Science: One course in each of two areas or a sequence of two laboratory course in Biology, Chemistry or Physics.
 - Physical Science: ASTR 100; CHEM 100, 192, 210; GEOG 100; GEOG 100, 210; OCEN 100; PSCI 100; PHYS 100, 210, 250.
 - Biological Science: BIOL 100, 110, 125, 130, 150, 200, 210, 220, 230, 250, 260, 265, 266.
 - 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.

All majors listed below are offered as baccalaureate programs at the institutions noted and award a bachelor's degree upon completion of program requirements.

University of California, Berkeley

African-American Studies
American Studies
Anthropology
Architecture
Art
Astrophysics
Bioengineering
Bioresource Sciences
Business Administration
Chemical Engineering
Chemistry
Civil and Environmental Engineering
Cognitive Science
Computer Science A.B.
Conservation and Resource Studies
Development Studies
Earth Resources Engineering
Earth Science
Economics
Electrical Engineering and Computer Science
Engineering Mathematics and Statistics
Engineering Physics

Engineering Science
English
Environmental Economics and Policy
Environmental Engineering Science
Environmental Sciences:
 Emphasis on Biological Sciences
Environmental Sciences:
 Emphasis on Physical Sciences
Environmental Sciences:
 Emphasis on Social Sciences
Forest Products
Forestry and Resource Management
Genetics and Plant Biology
Geography
Geology
Geophysics
History
Human Biodynamics (the Department of Human Biodynamics will become part of the Department of Integrative Biology beginning July 1, 1997)
Industrial Engineering and Operations Research
Integrative Biology
Interdisciplinary Studies Field
Italian
Landscape Architecture
Latin American Studies
Legal Studies
Manufacturing Engineering
Mass Communications
Materials Science and Mineral Engineering
Materials Science Engineering
Mathematics/Applied Mathematics
Mechanical Engineering
Molecular & Cell Biology, Plan I:
 Emphases in Biochemistry and Molecular Biology, Genetics, or Immunology
Molecular & Cell Biology, Plan II:
 Emphases in Cell and Development Biology, or Neurobiology
Naval Architecture and Offshore Engineering
Nuclear Engineering
Nutrition and Clinical Dietetics
Nutrition and Food Science
Physical Sciences, Plan A:
 Enables the student preparing for a career in environmental or health science to major in physical science with simultaneously acquiring the pre-professional preparation
Physical Sciences, Plan B:
 Enables the student to complete much of the departmental major while also studying astronomy and geology as well as computer science

Physics
Political Economy of Industrial Societies
Political Economy of Natural Resources
Political Science
Psychology
Rhetoric
Social Sciences
Social Welfare
Sociology
Statistics

University of California, Davis

Aeronautical Science & Engineering B.S.
African-American and African Studies A.B.
Agricultural and Managerial Economics B.S.
Agricultural Systems and Environment B.S.
American Studies A.B.
Animal Science and Management B.S.
Animal Science B.S.
Anthropology A.B.
Anthropology B.S.
Applied Behavioral Sciences B.S.
Applied Ecology
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.
Biotechnology B.S.
Chemical Engineering B.S.
Chemical Engineering B.S. & Chemical/Biochemical Engineering B.S.
Chemical Engineering/Materials Science & Engineering B.S.
Chemistry A.B.
Chemistry B.S.
Chicana/Chicano Studies A.B.
Chinese A.B.
Civil Engineering B.S.
Civil Engineering/Materials Science & Engineering B.S.
Classical Civilization (Classical & Mediterranean) A.B.
Community Nutrition B.S.
Comparative Literature A.B.
Computer Engineering B.S.
Computer Science & Engineering B.S.
Computer Science B.S.
Crop Science and Management B.S.
Design B.S.
Dietetics B.S.

East Asian Studies A.B.
Economics A.B.
Electrical Engineering B.S.
Electrical Engineering/Materials Science & Engineering B.S.
English A.B.
Entomology B.S.
Environmental and Resource Sciences B.S.
Environmental Biology and Management B.S.
Environmental Horticulture and Urban Forestry B.S.
Environmental Policy Analysis & Planning B.S.
Environmental Toxicology B.S.
Evolution and Ecology A.B.
Evolution and Ecology B.S.
Exercise Science A.B.
Exercise Science B.S.
Fermentation Science B.S.
Fiber & Polymer Science B.S.
Food Biochemistry B.S.
Food Engineering B.S.
Food Science B.S.
French B.S.
Genetics B.S.
Geography B.S.
Geology A.B.
Geology B.S.
German A.B.
History A.B.
Human Development B.S.
Hydrologic Science B.S.
International Agricultural Development (Natural Sciences) B.S.
International Agricultural Development (Social Sciences) B.S.
International Relations A.B.
Italian A.B.
Japanese A.B.
Landscape Architecture B.S.
Materials Science & Engineering B.S.
Mathematics A.B.
Mathematics B.S.
Mechanical Engineering B.S.
Mechanical Engineering/Materials Science & Engineering B.S.
Medieval Studies A.B.
Microbiology A.B.
Microbiology A.B. (Bacteriology)
Microbiology B.S.
Native American Studies A.B.
Nature and Culture A.B.
Neurobiology, Physiology and Behavior
Nutrition Science B.S.
Philosophy A.B.
Physical Education A.B.
Physical Education B.S.
Physics A.B. & B.S.
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)
 Range & Wildlands Science B.S.
 Religious Studies A.B.
 Rhetoric and Communication A.B.
 Sociology A.B.
 Sociology A.B. (Comparative Studies)
 Sociology A.B. (Law and Society)
 Sociology A.B. (Social Service)
 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, Fish & Conservation Biology B.S.
 Women's Studies A.B.
 Zoology A.B.
 Zoology B.S.

University of California, Irvine
 Biological Sciences
 Engineering
 Information and Computer Science

University of California, Los Angeles
 Biochemistry
 Business Economics
 Chemistry
 Cognitive Science
 Economics
 Engineering
 Motion Picture/Television
 Psychobiology
 Theater

University of California, Riverside
 Anthropology
 Art (Studio)
 Art History
 Asian Studies
 Biochemistry
 Biology
 Botany/Plant Sciences
 Business Administration
 Business Economics
 Chemical Engineering
 Chemistry
 Chinese
 Comparative Literature
 Computer Science
 Economics

Electrical Engineering
 English
 Entomology
 Environmental Engineering
 Environmental Science
 French
 Geography
 Geology
 Geophysics
 German
 History
 Human Development
 Language
 Latin American Studies
 Liberal Studies
 Linguistics
 Mathematics
 Mechanical Engineering
 Music
 Philosophy
 Physical Sciences
 Physics
 Political Science
 Psychobiology
 Psychology
 Public Service/Political Science
 Russian Studies
 Social Relations
 Sociology
 Spanish
 Statistics

University of California, San Diego
 Engineering

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.
 Engineering
 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.
 Psychology

University of California, Santa Cruz
 Anthropology
 Art History
 Biology
 Business Economics
 Chemistry
 Chemistry, B.A.
 Computer Engineering
 Computer Science
 Earth Sciences
 Economics
 Economics, Business Pathway

Economics, Global
 Environmental Studies
 History
 Literature
 Mathematics
 Philosophy
 Philosophy (concentration in religious thoughts)
 Physics
 Politics
 Psychology
 Sociology

California College of Arts and Crafts
 Architecture

University of California, San Francisco
 Dental Hygiene B.A.

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
 Mechanical Engineering
 Pre-Pharmacy

University of Southern California
 Business Administration
 Nursing

University of San Francisco
 Business Administration
 Nursing

Cleveland Chiropractic College of Los Angeles
 Chiropractic

Life Chiropractic College West
 Chiropractic

Los Angeles College of Chiropractic
 Chiropractic

Palmer College of Chiropractic West
 Pre-Chiropractic

Embry-Riddle Aeronautical University
 Aviation Computer Science
 Aviation Maintenance Management

Azusa Pacific University
 Nursing

Biola University
 Nursing

Dominican College
 Nursing

Loma Linda University
 Nursing

Mount Saint Mary's College
 Nursing

Point Loma Nazarene College
 Nursing

Samuel Merritt - St. Mary's College Intercollegiate
 Nursing

California State University, Bakersfield
 Nursing

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.	Animal Sciences (Preveterinary Medicine Option)	Management Speciality)	French
Computer Information Systems B.S.	Animal Sciences (Production Management Option)	Industrial Technology (Computer-Aided Manufacturing Management, Industrial Control Systems Management or Transportation System Management Speciality)	Geography
Computer Science B.S. (General Computer Science Option)	Anthropology	Interior Design	Geology
Computer Science B.S. (Math/Science Option)	Art	Liberal Studies	German
Construction Management B.S.	Art (Graphic Design Option)	Mass Communication and Journalism	Health Science
Dietetics and Food Administration B.S.	Biology (Ecology Option)	Mathematics	History
Economics B.A.	Biology (Molecular/Cellular Biology Option)	Mechanical Engineering	Industrial Engineering
Electrical Electronic Engineering B.S.	Biology (Organismic/General Biology Option)	Music (Option I — Composition, Instrumental Performance, Music History or Vocal Performance Emphasis)	Liberal Studies: Credential Track
Geography B.A.	Biology (Physiology Option)	Music (Option II — Brass, Woodwind, Percussion Emphasis)	Liberal Studies: Liberal Arts Track
Geology B.S.	Business Administration	Music (Option II — Voice, Piano, Organ or String, Harp Emphasis)	Mass Communications
Health Science B.S. (Applied Health Option)	Chemistry, B.A.	Natural Sciences (Biology or Earth Science Emphasis)	Mathematics
Health Science B.S. (Community Health Education Option)	Chemistry, B.S.	Natural Sciences (Chemistry Emphasis)	Music
Health Science B.S. (Gerontology Option)	Child Development	Natural Sciences (Physics Emphasis)	Nursing
Health Science B.S. (Health Services Administration Option)	Child Development	Nursing	Physical Science
Health Science B.S. (School Health Option)	Civil Engineering	Philosophy	Physics
History B.A.	Computer Engineering	Philosophy (Pre-Law Option)	Political Science
Industrial Arts	Computer Science	Philosophy (Religious Option)	Psychology
Industrial Technology B.S. (Electronics and Computer Technology Option)	Construction Management (Architecture Speciality)	Physical Education (Exercise Science Option, Exercise Physiology Emphasis)	Spanish
Industrial Technology B.S. (Manufacturing Systems Management Option)	Construction Management (Management Speciality)	Physical Education (Athletic Training Option)	Speech Communication
Industrial Technology B.S. (Polymer Technology Option)	Criminology (Law Enforcement or Victimology Option)	Physical Education (Exercise Science Option, Biomechanics Emphasis)	
Information and Communication Studies B.A.	Economics	Physics	Humboldt State University
International Relations B.A. (Environmental Issue Option)	Electrical Engineering	Plant Science (Production Management Emphasis)	Business Administration
Liberal Studies B.A.	English	Plant Science (Science & Technology Emphasis)	Fisheries
Mathematics B.S.	Food & Nutritional Science (Dietetics & Food Administration Option)	Political Science	Forestry
Mechanical Engineering B.S.	Food & Nutritional Science (Enology Option - Wine Marketing or Wine Assurance)	Pre-Physical Therapy	Natural Resources Planning and Interpretation
Microbiology B.S.	Food & Nutritional Science (Enology Option - Wine Production)	Psychology	Nursing
Music B.A.	Food & Nutritional Science (Food Science Option)	Public Administration	Oceanography
Nursing B.S.	French	Recreation Administration	Range Management
Physical Education B.A.	Geography	Social Work	Wildlife Management
Physical Science B.S.	Geology	Sociology	
Physics B.S.	Health Science (Community Health Option)	Spanish	California State University, Long Beach
Psychology B.A.	Health Science (Environmental Health Science/Industrial Hygiene Option)	Speech Communication	Business Administration
Recreation Administration B.S. (Therapeutic Recreation Option)	Health Science (Health Services Option)	Theatre Arts (Dance Option)	Kinesiology and Physical Education
	Health Science (Occupational Safety & Health Option)		Nursing
	History		
	Home Economics (Child and Family Studies Speciality)		California State University, Los Angeles
	Home Economics (Clothing & Textiles Speciality)		Business Administration
	Home Economics (Consumer Science & Housing Speciality)		Business Education
	Home Economics (Fashion Merchandising Speciality)		Computer Information Systems
	Home Economics (General Home Economics Speciality)		Economics
	Home Economics (Home Economic Teacher Education Speciality)		Nursing
	Industrial Engineering		California State University, Monterey Bay
	Industrial Technology (Computer-Aided Design Management or Graphic Communications		Earth Systems Science and Policy
			Global Studies
			Human Communication
			Liberal Studies
			Music and Performing Arts
			Social and Behavioral Sciences
			Telecommunications, Multimedia, and Applied Computing
			Visual and Public Arts
			World Languages and Cultures
			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
French
Geography
Geology
German
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
Physical Therapy
Physics
Psychology
Social Science
Sociology

**California State University,
San Bernardino**

Nursing

San Diego State University

Aerospace Engineering
Business Administration
Engineering Mechanics
Nursing

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
Criminal Justice Administration
Dance: Concentration in
Ethnology
Dance: Concentration in
Performance/Choreography
Dietetics
Economics
Engineering: Civil, Electrical and
Mechanical Engineering
English
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
Liberal Studies
Mathematics and Applied
Mathematics
Music
Nursing, Non-R.N.
Nursing, 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

Advertising B.S.
Aerospace Engineering B.S.
Afro-American Studies B.A.
Anthropology B.A.
Applied and Computational
Mathematics B.S.
Art B.A.: Art History
Concentration
Art B.A.: General Design Studies
Concentrations, Graphic Design
and Illustration Emphasis
Art B.A.: General Design Studies
Concentrations, Interior Design
Emphasis
Art B.A.: General Studio Practice
Concentration, Art Education
Emphasis

Art B.A.: General Studio Practice
Concentration, Ceramics,
Crafts, Painting and Drawing,
Printmaking, Sculpture
Emphases
Art B.A.: General Studio Practice
Concentration, Computer
Emphasis
Art B.A.: General Studio Practice
Concentration, Photography
Emphasis
Art B.A.: General Studio Practice
Concentration, Pictorial or
Spatial Emphasis
Aviation B.S.: Aviation
Maintenance Concentration
Aviation B.S.: Aviation Operation
Concentration
Behavioral Science B.A.
Behavioral Science with a Double
Major in Psychology B.A. (or
Sociology 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.:
Conservation and Organismal
Concentration
Biological Science B.S.:
Entomology Concentration
Biological Science B.S.:
Environmental Biology,
Environmental Health-Applied
Toxicology, Molecular Biology,
Systems Physiology
Concentrations
Biological Science B.S.: Marine
Biology Concentration
Biological Science B.S.:
Molecular Biology
Concentration
Biological Science B.S.: Systems
Physiology Concentration
Biological Science B.S.: Teaching
Concentration
Biological Science B.S.: Wildlife
Ecology Concentration
Business Administration
Chemical Engineering B.S.
Chemistry B.A.
Chemistry B.A.: Biochemistry
Concentration
Chemistry B.S.
Chemistry B.S.: Concentration in
Analytical Chemistry, Nuclear
and Radiochemistry
Chemistry B.S.: Concentration in
Biochemistry
Child Development B.A.
Chinese B.A.
Civil Engineering B.S.
Communication Studies B.A.
Computer Engineering B.S.
Computer Science B.S.

Criminal Justice Administration
B.S.
Economics B.A.
Economics B.S.
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.
Geography B.A.: Cartography
Concentration
Geology B.A.
Geology B.S.: Concentration in
Geographic and Oceanography
German B.A.
Graphic Design B.S.
Health Science B.S.:
Concentration in Community/
Occupational Health Education
Health Science B.S.:
Concentration in Health Care
Management
History B.A.
Hospitality Management B.S.
Industrial and Systems
Engineering B.S.
Industrial Arts B.A.: Design and
Technical Drawing (or
Manufacturing) Technology
Concentration
Industrial Arts B.A.: Electronics
and Computer Technology
Concentration
Industrial Design B.A.
Industrial Technology B.S.:
Document Design and
Management Concentration
Industrial Technology B.S.:
Electronics and Computer
Technology Concentration
Industrial Technology B.S.:
Manufacturing System
Concentration
Industrial Technology B.S.:
Quality Assurance
Concentration
Interior Design B.S.
Japanese
Journalism and Mass
Communication B.S.:
Concentrations in: Magazine
Journalism, Photojournalism,
Radio-Television Journalism,
and Reporting and Editing
Liberal Studies B.A.:
Linguistics B.A. Natural
Language and Computer
Emphasis
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 Management Concentration
 Nutritional Science B.S.: Food Science and Technology Concentration
 Nutritional Science B.S.: Packaging Technology
 Occupational Therapy B.S.
 Philosophy B.A.
 Physical Education B.S.
 Physical Science
 Physics B.A.
 Physics B.S.
 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.
 Recreation B.A.
 Social Science B.A.
 Social Science B.A.: Teaching Concentration
 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.AR.
 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
 Nursing

California State University, Stanislaus
 Business Administration

California State University, California Maritime Academy
 Business Administration
 Marine Engineering Technology
 Marine Transportation
 Mechanical Engineering

Major Preparation Recommendations

Following are CSM's current major preparation recommendations listed by the following subject areas:

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All majors listed below are offered as baccalaureate programs at the institutions noted and award a bachelor's degree upon completion of program requirements.

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

University of California, Berkeley

Nutrition and Clinical Dietetics

ACTG 121
 ANTH 110 or PSYC 100 or SOCI 100
 BIOL 200, 210, 220, 230 and 260
 CA&S 310
 CHEM 210 or 224 and CHEM 231, 232, 250
 ECON 100, 102
 ENGL 100 and ENGL 110 or 120 or 130 or 140
 MATH 200, 241
 At least 12 semester units, including a) accounting, b) economics, and c) psychology, sociology, or anthropology
 Demonstrate proficiency in various word processing, spreadsheet, and database programs, or take UC-transferable course work in such applications

Nutrition and Food Science

BIOL 200, 210, 220, 230 and 260
 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
 PHYS 210, 211, 220, 221, or PHYS 250, 260
 At least 14 units from fields such as economics, history, languages, art, music, and/or political science
 5 additional units from physics, calculus, statistics, and/or computer science
 BIOL 220 and PHYS 270 (optional)

University of California, Davis

Community Nutrition B.S.

ANTH 110 or GEOG 110 or SOCI 105
 CHEM 210, 220 or CHEM 224, 225
 BIOL 110, 210, 220 and 230
 ECON 123 or MATH 200 or PSYC 121

PSYC 105
 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 SOCI 105
 CHEM 210, 220 or CHEM 224, 225
 BIOL 110, 210, 230
 CIS 250/251
 ECON 100, 102
 ECON 123 or MATH 200 or PSYC 121
 PSYC 100
 SPCH 100
Exercise Science A.B.
 BIOL 110, 210, 230
 PHYS 210, 220
 CHEM 210, 220 or CHEM 224, 225
 PSYC 100
 ECON 123 or MATH 200 or PSYC 121 (Biological Emphasis option)
 PSYC 121 (Psychological Emphasis Option)
Exercise Science B.S.
 BIOL 110, 125, 210, 230
 CHEM 210, 220 or CHEM 224, 225
 ECON 123 or MATH 200 or PSYC 121
 MATH 241 or MATH 251 or MATH 251, 252
 PHYS 210, 220 or PHYS 250, 260, 270
 CIS 240/241 or CIS 250/251 (Biomechanics Emphasis Option)
 PSYC 100
 CHEM 231, 232 (Exercise Physiology Emphasis Option)
Food Science B.S.
 BIOL 110, 230
 MATH 241 or MATH 251
 CHEM 210, 220 or CHEM 224, 225
 BIOL 110, 210, 220, CA&S 310, ECON 102 (Food Business & Management option)
 BIOL 110, 210, 220 (Consumer Food Science option)
 BIOL 110, 210, 220, CA&S 310, CHEM 231, 232, PHYS 210, 220 (Food/Microbiology option)
 CA&S 310, CHEM 231, 232, MATH 242 or 252, PHYS 210, 220 (Food Chemistry option)
 BIOL 110, 210, 220, CA&S 310, PHYS 210, 220 (Food Technology option)

Nutrition Science B.S.
 BIOL 110, 210, 220, 230
 CHEM 231, 232
 CHEM 210, 220 or CHEM 224, 225
 CIS 250/251
 ECON 123 or MATH 200 or PSYC 121
 MATH 241 or 251
Physical Education A.B.
 BIOL 110, 230
 CHEM 210, 220 or CHEM 224, 225
 ECON 123 or MATH 200 or PSYC 121
 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)
University of California, San Francisco
Dental Hygiene B.A.
 BIOL 110, 210
 CHEM 210, 231
 ENGL 100, 110
 HIST 201 or 202
 MATH 125 or higher
 PLSC 210
 PSYC 100
 SOCI 100
 SPCH 100
 Students must take the AHPAT prior to admission.
 Applicants must have a minimum GPA of 2.4.

BIOL 260, 265, 266 (recommended)
 CHEM 232 (recommended)
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 Southern California
Nursing
 ANTH 110 or SOCI 100
 CA&S 310

BIOL 240, 250, 260
 CHEM 210 or 410
 ENGL 100
 MATH 120, 200 (recommended)
 PSYC 100
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
 ENGL 100, 165
 PHYS 210, 220
 PSYC 100
 15 units in Humanities / Social Science required.
 A minimum of 60 units are required to transfer
Life Chiropractic College West
Chiropractic
 ANTH 110
 BIOL 250, 260
 CHEM 210, 220, 231, 232
 ENGL 100, 110
 PHIL 100
 PHYS 210, 220
 PSYC 100, 300
 SOCI 100
 SPCH 100
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

Azusa Pacific University

Nursing

ANTH 110 or SOCI 100
CA&S 310
BIOL 240, 250, 260
CHEM 210 or 410
ENGL 100
MATH 120, 200 (recommended)
PSYC 100

Biola University

Nursing

ANTH 110 or SOCI 100
CA&S 310
BIOL 240, 250, 260
CHEM 210 or 410
ENGL 100
MATH 120, 200 (recommended)
PSYC 100

Dominican College

Nursing

ANTH 110 or SOCI 100
CA&S 310
BIOL 240, 250, 260
CHEM 210 or 410
ENGL 100
MATH 120, 200 (recommended)
PSYC 100

Loma Linda University

Nursing

ANTH 110 or SOCI 100
CA&S 310
BIOL 240, 250, 260
CHEM 210 or 410
ENGL 100
MATH 120, 200 (recommended)
PSYC 100

Mount Saint Mary's College

Nursing

ANTH 110 or SOCI 100
CA&S 310
BIOL 240, 250, 260
CHEM 210 or 410
ENGL 100
MATH 120, 200 (recommended)
PSYC 100

Point Loma Nazarene College

Nursing

ANTH 110 or SOCI 100
CA&S 310
BIOL 240, 250, 260

CHEM 210 or 410
ENGL 100
MATH 120, 200 (recommended)
PSYC 100

Samuel Merritt - St. Mary's College Intercollegiate

Nursing

ANTH 110 or SOCI 100
CA&S 310
BIOL 240, 250, 260
CHEM 210 or 410
ENGL 100
MATH 120, 200 (recommended)
PSYC 100

California State University, Bakersfield

Nursing

ANTH 110 or SOCI 100
CA&S 310
BIOL 240, 250, 260
CHEM 210 or 410
ENGL 100
MATH 120, 200 (recommended)
PSYC 100

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
PSYC 100, 201
SOCI 100

Physical Education B.A.

BIOL 250, 260
CHEM 231
PHYS 210

California State University, Dominguez Hills

Occupational Therapy

BIOL 110, 265, 266
MATH 200
PSYC 200
Field work experiment required
Minimum 3.00 GPA required

California State University, Fresno

Food & Nutritional Science (Dietetics & Food Administration Option)

ACTG 121
BIOL 240, 260
CHEM 410
ENGL 100
PSYC 100
SOCI 100

Food & Nutritional Science (Enology Option - Wine Marketing or Wine Assurance)

CHEM 410
ENGL 100

Food & Nutritional Science (Enology Option - Wine Production)

CHEM 250, 410
ENGL 100

Food & Nutritional Science (Food Science Option)

CHEM 250
ENGL 100
MATH 241, 242
PHYS 210

Nursing

BIOL 240, 250, 260
CA&S 310
CHEM 410 (Preferred Course) or
CHEM 210
ENGL 100
MATH 200
PHIL 244 or PHIL 246
PSYC 100

One course from the following:
ANTH 110, SOCI 100, SOCI
105, SPCH 100

Physical Education (Exercise Science Option, Exercise Physiology Emphasis)

BIOL 250, 260
BUS 295
CHEM 210 or CHEM 410
CHEM 420
MATH 130, 200
PHYS 210

Select 24 units from the
following: BIOL 210 and BIOL
220 and BIOL 230, BIOL 240,
CHEM 231, CHEM 232, PHYS
220

Physical Education (Athletic Training Option)

BIOL 250, 260
HSCI 100

Physical Education (Exercise Science Option, Biomechanics Emphasis)

BIOL 250, 260
BUS 295
CHEM 210 or CHEM 410
CHEM 420
MATH 130, 200
PHYS 210

Select 24 units from the
following: CIS 115/116 or CIS
250/251, CIS 240/241, MATH
222, MATH 241, MATH 242,
MATH 251 and MATH 252 and
MATH 253, MATH 270 and
MATH 275,
PHYS 220, PHYS 250 and PHYS
260, PHYS 270

Pre-Physical Therapy

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

Beginning Fall 1997 a

Baccalaureate degree (in any
major) will become one of the
prerequisites for admission into
the physical therapy program

California State University, Hayward

Health Science

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

Nursing

ANTH 110 or SOCI 100
CA&S 310
BIOL 240, 250, 260
CHEM 210 or 410
ENGL 100
MATH 120, 200 (recommended)
PSYC 100

Humboldt State University

Nursing

ANTH 110 or SOCI 100
CA&S 310
BIOL 240, 250, 260
CHEM 210 or 410
ENGL 100
MATH 120, 200 (recommended)
PSYC 100

California State University, Long Beach

Kinesiology and Physical Education

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

Nursing

ANTH 110 or SOCI 00
 CA&S 310
 BIOL 240, 250, 260
 CHEM 210 or 410
 ENGL 100
 MATH 120, 200 (recommended)
 PSYC 100

**California State University,
 Los Angeles**

Nursing

ANTH 110 or SOCI 00
 CA&S 310
 BIOL 240, 250, 260
 CHEM 210 or 410
 ENGL 100
 MATH 120, 200 (recommended)
 PSYC 100

**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

Physical Therapy

BIOL 110
 BIOL 250
 BIOL 260 or BIOL 265, 266
 CHEM 210, 220 or CHEM 410,
 420
 MATH 200
 PHYS 210, 220
 PSYCH 100, or PSYCH 200, 300,
 410 (Select any two only)

**California State University,
 San Bernardino**

Nursing

ANTH 110 or SOCI 100
 CA&S 310
 BIOL 240, 250, 260
 CHEM 210 or 410
 ENGL 100
 MATH 120, 200 (recommended)
 PSYC 100

San Diego State University

Nursing

ANTH 110 or SOCI 100
 CA&S 310
 BIOL 240, 250, 260
 CHEM 210 or 410
 ENGL 100

MATH 120, 200 (recommended)
 PSYC 100

San Francisco State University

Dietetics

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

Health Science

BIOL 130, 240
 CHEM 100
 PSYC 100

Nursing, Non-R.N.

BIOL 240
 BIOL 250, 260 OR BIOL 265,
 266
 CA&S 310
 CHEM 192 and CHEM 210 or
 CHEM 410
 ENGL 100
 MATH 200
 PSYC 100

Nursing, R.N.

BIOL 240
 BIOL 250, 260 OR BIOL 265,
 266
 CA&S 310
 CHEM 192 or CHEM 210 or
 CHEM 410
 ENGL 100
 MATH 200
 NURS 211, 212, 222 AND 231
 PSYC 100

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.:
 Concentration in Community/
 Occupational Health
 Education*

BUS 295
 CA&S 310

*Health Science B.S.:
 Concentration in Health Care
 Management*

BUS 295
 CA&S 310
 ECON 100, 102

Nursing B.S.

BIOL 240, 250, 260
 CA&S 310
 CHEM 410, 420
 ENGL 100 or

ENGL 110 or ENGL 165
 MATH 200
 PSYC 110
 SPCH 100

Nutritional Science B.S.

BIOL 250, 260
 BUS 295
 CA&S 310
 CHEM 210,220 or CHEM 410,
 420
 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
 Management Concentration*

BIOL 240
 BUS 295
 CA&S 310
 CHEM 410, 420
 ECON 100 or 102
 ECON 123 or MATH 200
 PSYC 100

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

BIOL 240
 BUS 295
 CA&S 310
 CHEM 210, 220, 231
 MATH 200, 251 and 252
 PHYS 210

*Nutritional Science B.S.:
 Packaging Technology*

BIOL 240
 BUS 295
 CHEM 210, 220 or CHEM 410,
 420
 CHEM 231
 MATH 125, 200 and 241
 PHYS 210

Occupational Therapy B.S.

ANTH 110
 BIOL 266
 PSYC 100

Physical Education B.S.

BIOL 250, 260
 CHEM 410

**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
 HSCI 100
 MATH 200, 222
 PSYC 100

Sonoma State University

Nursing

ANTH 110 or SOCI 100
 CA&S 310
 BIOL 240, 250, 260
 CHEM 210 or 410
 ENGL 100
 MATH 120, 200 (recommended)
 PSYC 100

**II. 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 210, 211 or 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; SOSC 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

PHYS 270 (Optional)

Landscape Architecture

ARCH 120, 130, 140, 145, 210
 and 220
 BIOL 200, 220
 ENGL 100 and ENGL 110 or 120
 or 130 or 140
 GEOL 100, 101, 210
 One Physical Science course from
 the following: CHEM 100, 192,

291, 370/371; MATH 125, 200, 222, 231, 241, 242, 251, 252, 253, 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

BIOL 210 (optional)

University of California, Davis

Landscape Architecture B.S.

ART 201, 405
BIOL 100 or BIOL 110, 230
BIOL 110, 220
CHEM 100 or 210 or 224
ECON 100 or 102
GEOG 100
ECON 123 or MATH 200 or PSYC 121 or MATH 241 or MATH 251
HORT 211, 312
PHYS 100 or PHYS 210, 220
One of the following: ANTH 110, GEOG 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, 210, 220, 230 and 240
CIS 240/241
ENGR 230
MATH 251, 252
PHYS 250, 270

Landscape Architecture B.L.A.

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

A minimum of 50 CSU-transferable units must be completed prior to transfer. Portfolio review also requested prior to transfer.

III. 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.

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

(recommended for students interested in drawing and painting)

ART 201, 202, 405
(recommended for students interested in sculpture)

Design B.S.

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

University of California, Los Angeles

Motion Picture/Television

completion of the IGETC

Theater

completion of the IGETC

University of California, Riverside

Art (Studio)

ART 101, 102, 103

Art History

ART 101, 102, 103, 105

Music

Keyboard proficiency and participation in performing ensembles (recommended)

University of California, Santa Cruz

Art History

ART 101 or 102 or 103
Two courses are required, selected from two of the following areas:

ART 105
Photography: ART 351, 352
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, Fresno

Art

ARCH 210
ART 101, 102, 103, 201, 210, 224

Art (Graphic Design Option)

ACTG 121, 131
ARCH 145
ART 141, 328, 351, 406, 411
DRAF 120

Interior Design

ARCH 145, 210, 240
ART 102, 141, 406, 411
DRAF 121, 122
ENGL 100
MATH 200
PSYC 100
SPCH 100

Music (Option I —

Composition, Instrumental Performance, Music History or Vocal Performance Emphasis)
MUS 101, 102, 131, 132, 133 and 134

Music (Option II — Brass,

Woodwind, Percussion Emphasis)

MUS 101, 102, 131, 132, 133, 134 and 490

Music (Option II —Voice, Piano, Organ or String, Harp Emphasis)

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

Theatre Arts (Dance Option)

MUS 100

California State University, Hayward

Art

ART 101, 201, 223, 237 and 405
ART 214 or 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, Monterey Bay

Music and Performing Arts

DANC 121 and DANC 130, 141 or 148
MUS. 100, 102, 103, 104, 131, 132, 133 and 134
SPCH 130

Visual and Public Arts

ARCH 140 or TA&G 201
ART 101, 102, 103 and ART 351, 352 or 353
BCST 110
FILM 451 or 452
MUS. 101, 102, 103 or 104

California State University, Sacramento

Art

ART 101, 102, 201
ART 202 or 207
Two courses of the following: ART 214, 301 and/or 305
One course of the following: ART 223 and/or 231, 238, 241
One course of the following ART 411, and/or 412, 405

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 100, 200

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

San Jose State University

Art B.A.: Art History Concentration
ART 101, 102, 103
Select six semester units from
ARCH 140, ART 201, 223,
405, 411, and TAG 201

Art B.A.: General Design Studies Concentrations, Graphic Design and Illustration Emphasis
ARCH 140 or TA&G 201
ART 101, 102, 103, 201, 214
ART 301 or ART 305
ART 351

Art B.A.: General Design Studies Concentrations, Interior Design Emphasis
ARCH 140
ART 101, 102, 103, 201, 214
ART 301 or ART 305

Art B.A.: General Studio Practice Concentration, Art Education Emphasis
ARCH 140 or Art 202 or TA&G 201
ART 101, 102, 103, 201, 223,
301, 305, and 411
ART 405
ART 207 and ART 351

Art B.A.: 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 202, ART 301 or TA&G 210
ART 305 or ART 411/412

Art B.A.: General Studio Practice Concentration, Computer Emphasis
ARCH 140 or ART 202 or TA&G 201
ART 101, 102, 103, 201, 301,
305, and 411

Art B.A.: General Studio Practice Concentration, Photography Emphasis
ARCH 140 or ART 202 or ART 214 or TA&G 201
ART 101, 102, 103, 201, 301

ART 305 or ART 411
ART 351
Art B.A.: General Studio Practice Concentration, Pictorial or Spatial Emphasis
ARCH 140 or ART 202 or TA&G 201
ART 101, 102, 103, 201, 214, 301
ART 305 or ART 411
ART 207 and ART 223 (Pictorial Concentration only)
ART 405 and ART 411 (Spatial Concentration only)

Graphic Design B.S.
ART 101, 102, 103, 201, 202,
214, 301, 351
ARCH 140 or TA&G 201

Interior Design B.S.
ARCH 140
ART 101, 102, 103, 201 and 214
ART 301 or ART 305

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

IV. BUSINESS/ ECONOMICS - ACCOUNTING, BUSINESS ADMINISTRATION, ECONOMICS, HOSPITALITY MANAGEMENT, MARKETING, RECREATION ADMINISTRATION

University of California, Berkeley

Business Administration
CIS 115/116 or CIS 240/241 or
CIS 250/251 or CIS 252/253 or
CIS 290/291 or CIS 308/309
ECON 100, 102
ECON 123 or MATH 200
ENGL 100 and ENGL 110 or 120
or 130 or 140 and one of the
following: ENGL 161, 162, 163,
165; LIT 101, 105, 113, 115,
143, 151, 201, 202, 231, 232,
251, 301, 302, 430
MATH 241 or 251; (It is
recommended that students who
receive a grade of "C" or lower
in the required math courses

complete the next math course
in the series. Math 242 or 252)
Foreign Language Requirement:
complete 3 years of a single
foreign language in high school
or complete college courses
equivalent to the second
semester of a foreign language
as taught at Berkeley. All
courses must be passed with at
least a C. French, German,
Japanese, or Spanish 120 or 122
Breadth requirements: At least 7
of the 9 courses listed below
must be completed before
admission (Any remaining
courses must be completed
before graduation). A maximum
of 3 of the courses may be taken
CR/NC prior to admission.
Art & Humanities 2 courses:
ART, ENGL, HUM, LIT, MUS,
as well as FILM 100, 120, 121,
200, 461, 462, 466; PHIL 100,
160, 175, 244, 246, 300, 320.
Biological Sciences 1 course: Any
UC transferable BIOL course,
as well as HORT 311, 312, 320,
341; PALN 110.

International Studies 2 courses:
HIST 100, 101, 110, 425; PLSC
110, 130, 520
Physical Sciences 1 course:
CHEM, PHYS, as well as
ASTR 100; ENGR 11, 210, 230,
260, 270; GEOG 100, 210;
METE 100; OCEN 100; PSCI
100.

**Social & Behavioral Sciences 3
courses:** ETHN, HIST, PLSC,
PSYC, SOCL, as well as ADMJ
100, 102, 104, 108; ANTH 105,
110, 180, 370; ARCH 100, 112,
120, 130, 140, 145, 210, 220;
GEOG 110; JOUR 110; SOSOC
111, 220, 221.

Economics
ECON 100, 102
MATH 241, 242 or MATH 251,
252

University of California, Davis

Economics A.B.
ECON 100, 102
MATH 241, 242 or MATH 251,
252 or MATH 251, 252, 253
ECON 123 or MATH 200 or
PSYC 121
MATH 270

Textile Clothing B.S. (Marketing)
ACTG 121, 131
ART 101, 102, 103
ANTH 110
CHEM 100
CIS 250/251
ECON 123 or MATH 200 or
PSYC 121
ECON 100, 102
MATH 241 or 251

PHYS 100
PSYC 100
Textile Clothing B.S. (Multidisciplinary)
ANTH 110
CIS 250/251
ART 101, 102, 103
CHEM 210, 220 or CHEM 224,
225
ECON 100, 102
PHYS 100
ECON 123 or MATH 200 or
PSYC 121
PSYC 100

University of California, Los Angeles

Business Economics
ACTG 121, 131
ECON 100, 102
ECON 123 or MATH 200
MATH 251, 252

Economics
ECON 100, 102
MATH 251, 252, 253
ENGL 165
MATH 200 or ECON 123

University of California, Riverside

Business Administration
ACTG 121, 131
CIS 110
ECON 100
ECON 102
ECON 123 or PSYC 121
MATH 241 or 251

Business Economics
ACTG 121, 131
ECON 100, 102
MATH 241, 242 or 251, 252

Economics
ECON 100, 102
MATH 241, 242, or 251, 252
ACTG 121, (Cooperative major
with Admin. Studies)
CIS 110 (Cooperative major with
Admin. Studies)
ECON 123 (Cooperative major
with Admin. Studies)
BUS 100 (Cooperative major with
Admin. Studies)

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*Business Economics*

ACTG 121, 131
ECON 100, 102
MATH 241, 242 or MATH 251, 252, 253

Economics

ECON 100 or 102
MATH 241, 242 or MATH 251, 252, 253
ACTG 121, 131 (recommended)

Economics, Business Pathway

ACTG 121
ECON 100, 102
MATH 241, 242 or MATH 251, 252, 253
ACTG 131 (recommended)

Economics, Global

ECON 100, 102
MATH 241, 242 or MATH 251, 252, 253
ACTG 121, 131 (recommended)
Two years of university-level language courses or by demonstrating an equivalent level of competence through a recognized language test.

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 100, 102
ECON 123 or MATH 200
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
MATH 200

Two courses from one of the following sequences in Western culture: ART 101, 102, 103; HIST 100, 101; or HUM 101, 102 (recommended)

Biological or Physical Science 1 course from the following:
ASTR 100; BIOL 100, 102, 110, 125, 130, 140, 145, 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; PALN 110; PHYS 210, 220, 250, 260, 270.

Second Language: 3 years of a foreign language in high school or 2 courses of elementary language

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

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
MATH 200
MATH 241
MATH 242 (Recommended)
CIS 308, 309

Recreation Administration B.S. (Therapeutic Recreation Option)

BIOL 250, 260
CIS 110

California State University, Fresno*Agricultural Business (Business Management Base)*

ACTG 121, 131
BIOL 110
BUS 295
CHEM 410
HORT 320
MATH 125
MATH 200

Business Administration

ACTG 121, 131
BUS 295
ECON 100, 102
ENGL 100
MATH 125, 200

Economics

ECON 100, 102

Public Administration

PLSC 100

Recreation Administration

Minimum of 12 semester units from the following divisions with no more than six units taken from any one division:
Division A: ART 201, ART 224, ART 351, ART 411
Division B: MUS 100
Division C: BUS 295

California State University, Hayward*Business Administration*

ACTG 121
BUS 201
ECON 100, 102
ECON 123 or MATH 200
MATH 241 and MATH 125 or MATH 242 or MATH 251, 252
PSYC 100
PC software proficiency may be satisfied through appropriate course work or waived through examination or BUS 295

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 100, 102
ECON 123 or MATH 200

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
ECON 100 and 102
ECON 123 or MATH 200
MATH 241
CIS 115/116 (Management Information System concentration)
Computer literacy required: BUS 295 or BUSD 101, BUSD 201, BUSW 202 or 401

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 201 (for Actg. and Hosp.
 Mgmt. majors only)
 ECON 100, 102
 ECON 123 or MATH 200
 MATH 241
 ENGL 110 or 120 or 130 or 140
 or 165 required prior to upper
 division Business courses.
 Computer literacy required: BUS
 295 or CIS 110 and BUSW 415
 or BUSD 405

Economics

ECON 100, 102

Home Economics

CA&S 210

Hospitality Management

ACTG 121, 131
 BUS 201
 BUS 295 or BUS 311 and CIS
 110
 ECON 102
 ECON 123 or MATH 200

San Jose State University

Business Administration
 ACTG 121, 131
 BUS 201, 295
 ECON 100, 102
 ECON 123
 ENGL 110 or 165
 MATH 125
 CIS 110, 115, 116 (Management
 Information Systems
 Concentration)
 Note: a minimum of C - is
 required for all the transferable
 courses

Economics B.A.

ECON 100, 102
 Transfer students should take a
 beginning course in FORTRAN,
 Pascal or C Programming.

Economics B.S.

ECON 100, 102
 MATH 125, 241, and 251

Hospitality Management B.S.

ACTG 121
 ECON 100, 102
 MATH 125 or 200

**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 201
 ECON 100, 102
 ECON 123 or MATH 200
 MATH 125, 241

Note: Managerial Accounting is
 required in upper division but
 credit may be given (on an
 individual basis) if CSM ACTG
 131 and BUS 295 are completed
 before transfer.

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 100, 102
 ECON 123 or MATH 200
 MATH 241

**California State University,
 Stanislaus**

Business Administration

ACTG 121, 131
 ECON 100, 102
 ECON 123 or MATH 200
 MATH 125
 computer literacy may be satisfied
 by exam or by taking: BUSW
 105 and BUSW 415 or BUSW
 405

**California State University,
 California Maritime Academy**

Business Administration

ACTG 121
 BUSD 105, 204, 405
 ECON 100, 102
 ENGL 100, 165
 HIST 201, 202
 MATH 125, 130
 MGMT 100
 PHYS 210, 220
 PLSC 205 or 210 or 212
 SPCH 100 or 120
 1 course in Art, Humanities,
 Literature or Philosophy on
 IGETC list, Area 3
 1 CSU transferable course (3
 units) in Natural Science e.g.

Biology, Geology, etc.

In addition, applicants must
 submit verbal and mathematics
 test scores from either the
 Scholastic Aptitude Test (SAT-
 I) or American College Test
 (ACT).

All candidates must meet the
 physical requirements for a
 Coast Guard License, including
 color vision, eyesight, and
 general health.

**V. COMMUNICATIONS -
 JOURNALISM, MASS
 COMMUNICATIONS,
 RADIO AND TELEVISION**

**University of California,
 Berkeley**

Mass Communications

ANTH 110 or ECON 100, 102 or
 PLSC 200 or SOCI 100
 PLSC 210 or PSYC 100
 HIST 202

Menlo College

Communications

BUS 100
 FILM 100 or 200
 JOUR 110, 120

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

Communications

JOUR 110, 120
 SPCH 111, 120
 Two semesters of one foreign
 language

**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,
 Fresno**

*Mass Communication and
 Journalism*

BCST 110 or JOUR 110
 JOUR 120

Speech Communication

SPCH 100, 120

**California State University,
 Hayward**

Mass Communications

BCST 110, 131, 194, 231
 JOUR 110, 120

Speech Communication

SPCH 100, 120, 130

**California State University,
 Monterey Bay**

Human Communication

ANTH 110
 BCST 110
 ECON 100 or 102
 MUS. 250
 PSYC 100
 SOCI 100
 SPCH 100, SPCH 111 or 112 and
 SPCH 150
 ASL 111 or 112 (recommended)

*Telecommunications,
 Multimedia, and Applied
 Computing*

BCST 131, 132, 231 or 232
 CIS 110, 250/251
 FILM 461 or 462
 JOUR 120
 SPCH 100

**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

Communication Studies B.A.

SPCH 100

*Journalism and Mass
 Communication B.S.:*

*Concentrations in: Magazine
 Journalism, Photojournalism,
 Radio-Television Journalism,
 and Reporting and Editing*
 ART 351
 BCST 194
 BUS 175
 ECON 100
 LIT 201, 202, 231 or 232

JOUR 110, 120
MATH 200
PSYC 100

Radio and Television B.A.
BCST 110, 131, 132, 231, 232

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

VI. COMPUTER SCIENCE - COMPUTER INFORMATION SYSTEMS

(Note: see Engineering for Computer Engineering)

University of California, Berkeley

Computer Science A.B.
CIS 250/251 and 290/291
ENGR 260
MATH 251, 252, 253, 270, 275
MATH 268 (recommended)
PHYS 250, 260

Note: a score of 4 or 5 on the Computer Science AB AP test together with a course in C or C++ will satisfy UC Berkeley's COMPSCI 061B requirement

Note: completion of IGETC requirements is recommended

University of California, Davis

Computer Science B.S.
CIS 250/251, 252/253, 290/291
MATH 251, 252, 253, 270, 275
One series from the following: 1. CHEM 210, 220 or CHEM 224, 225
2. CHEM 210, 220 or 224, 225 and BIOL 110, 230
3. PHYS 250, 260, 270 and MATH 253

Note: completion of IGETC requirements recommended

University of California, Irvine

Information and Computer Science

MATH 251, 252
Two of the following courses:
CIS 250/251, 252/253, 290/291, 304/305 and/or 372/373
ENGL 100 and ENGL 110, 120, 130, 140 or 165

University of California, Riverside

Computer Science
CHEM 210 or 224
CIS 250/251, 290/291
MATH 251, 252, 253, 275
PHYS 250, 260, 270

University of California, Santa Cruz

Computer Science
CIS 250/251, 290/291
MATH 251, 252, 270

Menlo College

Computer Information Systems
BUS 100
CIS 250/251, 252/253
ECON 100, 102
MATH 200, 251, 252

Computer Science
CIS 250/251, 252/253 and 290/291
MATH 200, 251, 252, 253 and 270

St. Mary's College of California

Computer Science
CIS 250/251
MATH 251, 252, 253 and 270
PHYS 250, 260, 270

California State University, Chico

Computer Information Systems B.S.
ACTG 121, 131
BUS 201
CIS 250/251, 252/253 and 290/291
ECON 100
MATH 200 and 251

Computer Science B.S. (General Computer Science Option)
CIS 250/251, 252/253 and 290/291
MATH 251, 252
PHYS 250, 260
ENGL 820 or MGMT 110 (recommended)

Computer Science B.S. (Math/Science Option)
CHEM 210 or 224
CIS 250/251, 252/253 and 290/291
MATH 251, 252, 253 and 275
PHYS 250, 260, 270

California State University, Fresno

Computer Science
CIS 250/251
MATH 251, 252, 253
PHYS 210, 220 or PHYS 252, 260, 270

California State University, Hayward

Computer Science
CIS 250/251, 252/253 and 290/291
MATH 251, 252, 253 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 250/251, 252/253 and 290/291
MATH 251, 252
PHYS 250, 260
CIS 110 (recommended)

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.
CHEM 210 or 224
CIS 250/251, 252/253, 290/291
MATH 251, 252, 253, 270
PHYS 250, 260

California Polytechnic State University, San Luis Obispo

Computer Science
CHEM 224
CIS 250/251, 252/253, 290/291
ENGL 100, 165
HIST 201, 202
MATH 251, 252, 253 and 270
PHYS 250, 260, 270
PLSC 200
SPCH 100

VII. CRIMINAL JUSTICE

California State University, Fresno

Criminology (Law Enforcement or Victimology Option)
ADMJ 100 or ADMJ 102
ADMJ 104, 108

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 Francisco State University

Criminal Justice Administration
ADMJ 100, 104, 106, 108, 120

San Jose State University

Criminal Justice Administration B.S.
ADMJ 100, 104, 106 and 120
ECON 123 or MATH 200

VIII. ENGINEERING/ COMPUTER ENGINEERING

University of California, Berkeley

Bioengineering
BIOL 200, 210, 220, 230
CHEM 210 or 224 and CHEM 231
CIS 240/241
ENGL 100
ENGR 260, 270
MATH 251, 252, 253, 270, 275
PHYS 250, 260, 270

Chemical Engineering
CHEM 210, 220 or 224, 225
CHEM 231 and 232 (ACS exam required beginning fall 1999)
CIS 240/241
ENGL 100
ENGR 260, 270
MATH 251, 252, 253, 270 and 275
PHYS 250, 260, 270

Civil and Environmental Engineering

CHEM 210 or 224
CIS 240/241
ENGL 100
ENGR 210, 230
MATH 251, 252, 253, 270 and 275
PHYS 250, 260
CHEM 220 or CHEM 225 or PHYS 270

Earth Resources Engineering
CHEM 210, 220 or CHEM 224, 225
CIS 240/241

ENGL 100
ENGR 230, 270
GEOL 100, 101
MATH 251, 252, 253, 270, 275
PHYS 250, 260

Electrical Engineering and Computer Science
BIOL 210, 220, 230
CHEM 210 or 224 and CHEM 220 or 225 (required only of students choosing Bioelectronics)

CIS 290/291
ENGL 100
ENGR 260, 270
MATH 251, 252, 253, 270, 275
PHYS 250, 260, 270

Note: a score of 4 or 5 on the Computer Science AB AP test together with a course in C or C++ will satisfy UC Berkeley's COMPSCI 061B requirement

Engineering Mathematics and Statistics

CHEM 210 or 224
CIS 240/241, 290/291
ENGL 100
MATH 251, 252, 253, 270, 275
PHYS 250, 260, 270

Note: a score of 4 or 5 on the Computer Science AB AP test together with a course in C or C++ will satisfy UC Berkeley's COMPSCI 061B requirement

Engineering Physics

CHEM 210, 220 or CHEM 224, 225
CIS 240/241
ENGL 100
MATH 251, 252, 253, 270, 275
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

Environmental Engineering Science

CHEM 210, 220 or CHEM 224, 225, CHEM 231
CIS 240/241
ENGL 100
ENGR 230
MATH 251, 252, 253, 270, 275
PHYS 250, 260

students must take at least two science electives: BIOL 210, 230, CHEM 232, 250, GEOL

100/101, PHYS 270

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, and 270
MATH 251, 252, 253, 270 and 275
PHYS 250 and 260
ENGL 100

Materials Science and Mineral 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, 270

Materials Science Engineering

CHEM 210, 220 or CHEM 224, 225
CIS 240/241
ENGL 100
ENGR 230, 270
MATH 251, 252, 253, 270 and 275
PHYS 250, 260, 270

Mechanical Engineering

CHEM 210 or 224
CIS 240/241
ENGL 100
ENGR 210, 230, 270
MATH 251, 252, 253, 270 and 275
PHYS 250, 260
PHYS 270 or CHEM 220 or 225 or BIOL 220 and 223

Naval Architecture and Offshore Engineering

CHEM 210 or 224
CIS 240/241
ENGR 210, 230 and 270
MATH 251, 252, 253, 270 and 275
PHYS 250, 260, 270

Nuclear Engineering

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

University of California, Davis

Aeronautical Science & Engineering B.S.

CHEM 210, 220 or CHEM 224, 225
CIS 240/241
ENGL 100 or ENGL 110
ENGR 210, 230, 260
MATH 251, 252, 253, 270, 275
PHYS 250, 260, 270

ENGR 270 (required for graduation)

SPCH 100 (required for graduation)

Biological Systems 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, 270
BIOL 210, 220, 230 (required for graduation)

CHEM 231, 232 or ENGR 111 (required for graduation)

ENGR 210 (required for graduation)

SPCH 100 (required for graduation)

Chemical Engineering B.S.

CHEM 210, 220 or CHEM 224, 225 or CHEM 210, 220, 250 or CHEM 224, 225, 250
CHEM 231, 232
CIS 240/241
ENGL 100 or 110
ENGR 230, 260
MATH 251, 252, 253, 270, 275
PHYS 250, 260, 270
SPCH 100 (required for graduation)

Chemical Engineering B.S. & Chemical/Biochemical Engineering B.S.

CHEM 210, 220 or CHEM 224, 225 or CHEM 210, 220, 250 or CHEM 224, 225, 250
CHEM 231, 232
CIS 240/241
ENGL 100 or 110
ENGR 230, 260
MATH 251, 252, 253, 270, 275
PHYS 250, 260, 270

BIOL 110, 230 (required for graduation)

SPCH 100 (required for graduation)

Chemical Engineering/ Materials Science & Engineering B.S.

CHEM 210, 220 or CHEM 224, 225 or CHEM 210, 220, 250 or CHEM 224, 225, 250
CHEM 231, 232
CIS 240/241
ENGL 100 or 110

ENGR 230, 260
MATH 251, 252, 253, 270, 275
PHYS 250, 260, 270
ENGR 270 (required for graduation)
SPCH 100 (required for graduation)

Civil 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, 270
ENGR 210, 270 (recommended)
ENGR 111 (required for graduation)
SPCH 100 (required for graduation)

Civil Engineering/Materials Science & 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, 270
ENGR 210 (recommended)
ENGR 111, 270 (required for graduation)
SPCH 100 (required for graduation)

Computer Engineering B.S.

CHEM 210 or CHEM 224
CIS 250/251, 290/291
ENGL 100 or 110
ENGR 230, 260, 270
MATH 251, 252, 253, 270, 275
PHYS 250, 260, 270
SPCH 100 (required for graduation)

Computer Science & Engineering B.S.

CHEM 210 or CHEM 224
CIS 250/251, 290/291
ENGL 100 or 110
ENGR 230, 260, 270
MATH 251, 252, 253, 270, 275
PHYS 250, 260, 270
CIS 290/291 (required for graduation)
SPCH 100 (required for graduation)

Electrical Engineering B.S.

CHEM 210 or CHEM 224
ENGL 100 or 110
ENGR 230, 260
MATH 251, 252, 253, 270, 275
ENGR 270 (recommended)
PHYS 250, 260, 270
CIS 290/291 (required for graduation)
SPCH 100 (required for graduation)

*Electrical Engineering/
Materials Science &
Engineering B.S.*

CHEM 210, 220 or CHEM 224, 225
ENGL 100 or 110
ENGR 230, 260
MATH 251, 252, 253, 270, 275
CIS 290/291 (required for graduation)
PHYS 250, 260, 270
ENGR 270 (required for graduation)
SPCH 100 (required for graduation)

Food Engineering B.S.

CHEM 210, 220 or CHEM 224, 225
ENGL 100, 110
CIS 240/241
ENGR 230, 260
MATH 251, 252, 253, 270, 275
BIOL 110, 230 (required for graduation)
ENGR 270 (required for graduation)
SPCH 100 (required for graduation)

*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
SPCH 100 (required for graduation)
PHYS 250, 260, 270
ENGR 210 (recommended)

Mechanical Engineering B.S.

CHEM 210, 220 or CHEM 224, 225
CIS 240/241
ENGL 100 or 110
ENGR 210, 230, 260
MATH 251, 252, 253, 270, 275
ENGR 270 (required for graduation)
PHYS 250, 260, 270
SPCH 100 (required for graduation)

*Mechanical Engineering/
Materials Science &
Engineering B.S.*

CHEM 210, 220 or CHEM 224, 225
CIS 240/241
ENGL 100 or 110
ENGR 210, 230, 260
MATH 251, 252, 253, 270, 275
ENGR 270 (required for graduation)
PHYS 250, 260, 270
SPCH 100 (required for graduation)

University of California, Irvine*Engineering*

CHEM 210, 220 or CHEM 224, 225
CIS 240/241, 250/251
ENGL 100
ENGR 260, 270
MATH 251, 252, 253, 270, 275
PHYS 250, 260, 270
Two courses from the category of HUMANITIES and two courses from the category of SOCIAL SCIENCES. One courses from the category of LIFE SCIENCE. (Refer to IGETC list approved courses.)

University of California, Los Angeles*Engineering*

CHEM 210, 220 or CHEM 224, 225
CIS 240/241, 250/251
ENGL 100
ENGR 260, 270
MATH 251, 252, 253, 270, 275
Four courses from the categories of HUMANITIES, SOCIAL SCIENCES and FINE ARTS. One course from the category of LIFE SCIENCE. (Refer to IGETC list for approved courses.)
PHYS 250, 260, 270

University of California, Riverside*Chemical Engineering*

CHEM 210, 220 or 224, 225, CHEM 231, 232
CIS 250
ENGR 230
MATH 251, 252, 253, 275
PHYS 250, 260, 270
BIOL 230 (for Biochemistry option)
ENGL 100 and 110, or 120, or 130, or 140, or 165, or SOSC 111 (recommended)
For Chemistry option also complete: CHEM 250
Four humanities or social science courses from the following: (recommended) One course from HIST 100 or 101
one course from ART HIST 101 or 102 or 103; or MUSIC 250; or PHIL 100
one course from ANTH 110; or PSYC 100; or SOCI 100
one course from ECON 100 or 102; or PLSC 210 or 130

Electrical Engineering

CIS 250
ENGR 230
MATH 251, 252, 253, 275
PHYS 250, 260, 270
BIOL 230 (recommended)
CHEM 210, 220 or 224, 225 (recommended)

CIS 290/291 (recommended)
ENGL 100 and 110, or 120, or 130, or 140 or 165, or SOSC 111 (recommended)
one course from HIST 100 or 101 (recommended)
one course from ART 101 or 102 or 103; or MUSIC 250; or PHIL 100
one course ANTH 110; or PSYC 100; or SOCI 100
one course from ECON 100 or 102; or PLSC 210 or 130

Environmental Engineering

BIOL 230
CHEM 210, 220 or 224, 225, CHEM 231, 232
CIS 250
MATH 251, 252, 253, 275
ENGR 230
PHYS 250, 260, 270
ENGL 100 and 110 or 120 or 130 or 140 or 165, or SOSC 111 (recommended)
one course from HIST 100 or 101 (recommended)
one course among ART 101 or 102 or 103; or MUSIC 250; or PHIL 100 (recommended)
one course from ANTH 110; or PSYC 100; or SOCI 100 (recommended)
one course from ECON 100 or 102; or PLSC 210 or 130 (recommended)

Mechanical Engineering

CHEM 210, 220 or CHEM 224, 225
CIS 250
ENGR 230
MATH 251, 252, 253, 275
PHYS 250, 260, 270
ENGL 100 and 110 or 120 or 130 or 140 or 165, or SOSC 111 (recommended)
ENGR 210, 270 (recommended)
A biological science course with lab
one course from HIST 100 or 101 (recommended)
one course among ART 101 or 102 or 103; or MUSIC 250; or PHIL 100 (recommended)
one course from ANTH 110; or PSYC 100; or SOCI 100 (recommended)
one course from ECON 100 or 102; or PLSC 210 or 130 (recommended)

University of California, San Diego*Engineering*

CHEM 210, 220 or CHEM 224, 225
CIS 240/241, 250/251
ENGR 260, 270
MATH 251, 252, 253, 270, 275
PHYS 250, 260, 267

University of California, Santa Barbara*Engineering*

CHEM 210, 220
MATH 251, 252, 253, 270, 275
CIS 240/241, 250/251
PHYS 250, 260, 270

University of California, Santa Cruz*Computer Engineering*

CHEM 210 or 224
CIS 250/251, 290/291
MATH 251, 252, 253, 270, 275
PHYS 250, 260, 270

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
ENGL 100, 110
MATH 251, 252, 253, 275
PHYS 250, 260, 270
One academic sequence & tow courses in ART 101 or 102 or 103; or HIST 100, 101; or PHIL 101, 102
one course in ANTH 110; or ECON 100 or 102; or PLSC 100 or 110 or 130 or 150; or PSYC 100 or 201 or 300; or SOCI 100 or 105 or 300
ENGR 210, 230, 260 or 261
World Cultures/Societies one course: ANTH 105 or ART 105 or ETHN 585 or GEOG 110 or HIST 425 or MUS 250 or PHIL 32
United States one course: ENGL 201 or 202; or ETHN 261 or 288 or 290 or 300 or 350 or 400 or 425 or 430; or HIST 102 or 201 or 202 or 242 or 260 or 270 or 350 or 360; or HUM 131 or 133; or MUS 240; or PLSC 205 or 210 or 212 or 220

Computer Engineering

CHEM 210
ENGL 100, 110
MATH 251, 252, 253, 275
PHYS 250, 260, 270
One academic sequence & tow courses in ART 101 or 102 or 103; or HIST 100, 101; or PHIL 101, 102
one course in ANTH 110; or ECON 100 or 102; or PLSC 100 or 110 or 130 or 150; or PSYC 100 or 201 or 300; or SOCI 100 or 105 or 300

CIS 250 (C++)
ENGR 230, 260 or 261
World Cultures/Societies one course: ANTH 105 or ART 105 or ETHN 585 or GEOG 110 or HIST 425 or MUS 250 or PHIL 32
United States one course: ENGL 201 or 202; or ETHN 261 or 288 or 290 or 300 or 350 or 400 or 425 or 430; or HIST 102 or 201 or 202 or 242 or 260 or 270 or 350 or 360; or HUM 131 or 133; or MUS 240; or PLSC 205 or 210 or 212 or 220

Electrical Engineering

CHEM 210
ENGL 100, 110
MATH 251, 252, 253, 275
PHYS 250, 260, 270
One academic sequence & two courses in ART 101 or 102 or 103; or HIST 100, 101; or PHIL 101, 102

One course in ANTH 110; or ECON 100 or 102; or PLSC 100 or 110 or 130 or 150; or PSYC 100 or 201 or 300; or SOCI 100 or 105 or 300

ENGR 210, 230, 260 or 261
World Cultures/Societies one course: ANTH 105 or ART 105 or ETHN 585 or GEOG 110 or HIST 425 or MUS 250 or PHIL 32

United States one course: ENGL 201 or 202; or ETHN 261 or 288 or 290 or 300 or 350 or 400 or 425 or 430; or HIST 102 or 201 or 202 or 242 or 260 or 270 or 350 or 360; or HUM 131 or 133; or MUS 240; or PLSC 205 or 210 or 212 or 220

Mechanical Engineering

CHEM 210
ENGL 100, 110
MATH 251, 252, 253, 275
PHYS 250, 260, 270
One academic sequence & two courses in ART 101 or 102 or 103; or HIST 100, 101; or PHIL 101, 102
one course in ANTH 110; or ECON 100 or 102; or PLSC 100 or 110 or 130 or 150; or PSYC 100 or 201 or 300; or SOCI 100 or 105 or 300

CIS 240 (Fortran)
ENGR 210, 230, 260 or 261
World Cultures/Societies one course: ANTH 105 or ART 105 or ETHN 585 or GEOG 110 or HIST 425 or MUS 250 or PHIL 32

United States one course: ENGL 201 or 202; or ETHN 261 or 288 or 290 or 300 or 350 or 400 or 425 or 430; or HIST 102 or 201 or 202 or 242 or 260 or 270

or 350 or 360; or HUM 131 or 133; or MUS 240; or PLSC 205 or 210 or 212 or 220

University of the Pacific

Civil Engineering
CHEM 224, 225
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, 225
CIS 240/241
ENGR 230, 260, and 666
MATH 251, 252, 253 and 275
PHYS 250, 260, 270

Electrical Engineering
CHEM 224, 225
CIS 240/241
ENGR 230, 260, and 666
MATH 251, 252, 253 and 275
PHYS 250, 260, 270

Engineering Physics
CHEM 224
CIS 240/241
ENGR 230, 260, and 666
MATH 251, 252, 253 and 275
PHYS 250, 260, 270

Mechanical Engineering
CHEM 224, 225
CIS 240/241
ENGR 210, 230, 260, 270 and 666
MATH 251, 252, 253 and 275
PHYS 250, 260, 270

California State University, Chico

Civil Engineering B.S.
BIOL 110 or BIOL 230
CHEM 210 or 224
ENGR 230, 270
MATH 251, 252, 253, 275
PHYS 250, 260
one course from BIOL 240, or CHEM 220 or 225, or GEOL 210, or PHYS 270

Computer Engineering B.S.
CHEM 210 or 224
CIS 250/251, 252/253
MATH 251, 252, 253 and 275
PHYS 250, 260, 270
SPCH 100

Electrical Electronic Engineering B.S.
BIOL 110 or 230
CHEM 210 or 224
MATH 251, 252, 253, 275
PHYS 250, 260, 270

Mechanical Engineering B.S.
BIOL 110 or 230
CHEM 210 or 224
ENGR 230, 270
MATH 251, 252, 253, 270, 275
PHYS 250, 260, 270

California State University, Fresno

Civil Engineering
CIS 240/250
ENGR 210, 230, 260
General Education or Additional Major Requirements
BIOL 110
CHEM 210
ENGL 100
GEOL 100/101 or GEOL 210
HSCI 100
HIST 201, 202
MATH 251, 252, 253, 270, 275
PHYS 250, 260, 270
PLSC 200
SPCH 100

Computer Engineering
BIOL 110
CHEM 210
CIS 250/251, 252/253
CIS 252/253
ENGL 100
ENGR 260
HIST 201, 202
HSCI 100
MATH 251, 252, 253, 270, 275
PHYS 250, 260, 270
PLSC 200
SPCH 100

Electrical Engineering
BIOL 110
CHEM 210
CIS 240, 250
ENGL 100
ENGR 260
HIST 201, 202
HSCI 100
MATH 251, 252, 253, 270, 275
PHYS 250, 260, 270
PLSC 200
SPCH 100

Industrial Engineering
BIOL 110
CIS 240, 250
CHEM 210
ENGL 100
ENGR 210, 260, 270
HIST 201, 202
MATH 251, 252, 253, 270, 275
PHYS 250, 260, 270
PLSC 200
SPCH 100

Mechanical Engineering
ARCH 210
BIOL 110
CHEM 210
CIS 240/241, CIS 250/251
ENGL 100
ENGR 210, 230, 260, 270
HIST 201, 202
MATH 251, 252, 253, 270, 275
PHIL 100
PHYS 250, 260, 270
PLSC 200
SPCH 100

California State University, Hayward

Industrial Engineering
CHEM 210, 220 or CHEM 224, 225
CIS 250/251
ECON 102
ENGR 66, 210, 230, 260, 270
MATH 251, 252, 253
PHYS 250, 260, 270
PSYC 100

California State University, Sacramento

Computer Engineering
CHEM 210
CIS 250/251, 252/253, and 290/291
ENGR 210, 260
MATH 251, 252 253 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 Diego State University

Aerospace Engineering
CHEM 210
CIS 240/241
DRAFT 120
ENGR 230
MATH 251, 252, 253
PHYS 250, 260, 270

Engineering Mechanics
CHEM 210
CIS 240/241
DRAFT 120
ENGR 230
MATH 251, 252, 253
PHYS 250, 260, 270

San Francisco State University

Engineering: Civil, Electrical and Mechanical Engineering
CHEM 224, 225
CIS 240, 241
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 210, 220 or 224, 225
CIS 250/251
ENGL 110 or 165
ENGR 210, 230, 260 and 270
MATH 251, 252, 253, 275
PHYS 250, 260, 270

Chemical Engineering B.S.

CHEM 210, 220 or 224, 225
 CIS 240/241
 ENGL 110 or 165
 ENGR 230, 260, 270
 MATH 251, 252, 253
 PHYS 250, 260
 MATH 275 (recommended)

Civil Engineering B.S.

CHEM 210, 220 or 224, 225
 CIS 250/251
 ENGL 110 or 165
 ENGR 111, 210, 230, 260 and 270
 MATH 251, 252, 253, 275
 PHYS 250, 260

Computer Engineering B.S.

CHEM 210, 220 or 224, 225
 CIS 250/251
 ENGL 110 or 165
 ENGR 230, 260 and 270
 MATH 251, 252, 253, 275
 PHYS 250, 260

Electrical Engineering B.S.

CHEM 210, 220 or 224, 225
 CIS 250/251
 ENGL 110 or 165
 ENGR 230, 260
 MATH 251, 252, 253, 275
 PHYS 250, 260, 270

General Engineering B.S.

CHEM 210, 220 or 224, 225
 CIS 240/241
 ENGL 110 or 165
 ENGR 260, 270
 MATH 251, 252, 253
 PHYS 250, 260
 MATH 275 (recommended)

Industrial and Systems Engineering B.S.

CHEM 210, 220 or 224, 225
 CIS 240/241
 ENGL 110 or 165
 ENGR 210, 260, 270
 MATH 251, 252, 253
 PHYS 250, 260
 MATH 275 (recommended)

Materials Engineering B.S.

CHEM 210, 220 or 224, 225
 CIS 240/241
 ENGL 110 or 165
 ENGR 260, 270
 MATH 251, 252, 253
 PHYS 250, 260

Mechanical Engineering B.S.

CHEM 210, 220 or 224, 225
 CIS 240/241
 DRAF 120
 ENGL 110 or 165
 ENGR 210, 230, 260 and 270
 MATH 251, 252, 253
 PHYS 250, 260
 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, 250/251
 ENGR 111, 230, 260 and 270
 GEOL 100
 PHYS 250, 260, 270

Computer Engineering

CHEM 224
 CIS 250/251
 ENGL 100, 165
 ENGR 230, 260
 MATH 251, 252, 253 and 275
 PHYS 250, 260, 270
 PLSC 200
 SPCH 100

Electrical Engineering B.S.

CHEM 224, 225
 CIS 250/251
 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
 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
 ENGR 230, 260
 MATH 251, 252, 253 and 275
 PHYS 250, 260, 270

Industrial Engineering B.S.

CHEM 210, 220
 CIS 250/251
 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
 DRAF 100 or 120
 ENGR 230, 260, 270
 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

California State University, California Maritime Academy*Marine Engineering Technology*

CHEM 210 or 224
 ECON 100
 ENGL 100, 165
 HIST 201, 202
 MATH 130, 251, 252
 PHYS 210, 220
 PLSC 205 or 210 or 212
 SPCH 100 or 120
 1 course in Art, Humanities, Literature or Philosophy on IGETC list, Area 3
 1 CSU transferable course (3 units) in Natural Science e.g. Biology, Geology, etc.
 In addition, applicants must submit verbal and mathematics test scores from either the Scholastic Aptitude Test (SAT-I) or American College Test (ACT).

All candidates must meet the physical requirements for a Coast Guard License, including color vision, eyesight, and general health.

Mechanical Engineering

CHEM 210, 220
 ENGL 100, 165
 HIST 201, 202
 MATH 130, 251, 252
 PHYS 250 and 260 or 270
 PLSC 205 or 210 or 212
 2 related courses in Art, Humanities, Literature or Philosophy on IGETC list, Area 3
 1 CSU transferable course (3 units) in Social Science.
 In addition, applicants must submit verbal and mathematics test scores from either the

Scholastic Aptitude Test (SAT-I) or American College Test (ACT).

All candidates must meet the physical requirements for a Coast Guard License, including color vision, eyesight, and general health.

IX. 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 310
 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

Environmental Economics and Policy

ENGL 100 and ENGL 110 or 120 or 130 or 140
 MATH 241, 242 or 251, 252
 At least 20 semesters units from the following list: ECON 100 and 102, HIST 100, HIST 101, HIST 201, HIST 202, PLSC 110, PLSC 200, PLSC 210
 Natural and Physical Sciences: at least 10 semester units, including one laboratory course
 BIOL 200 and 220, BIOL 110, CHEM 210, CHEM 220, CHEM 224, CHEM 225, PHYS 210 and 211, PHYS 220 and 221, PHYS 250, PHYS 260, PHYS 270

Environmental Sciences:

Emphasis on Biological Sciences
 BIOL 210, 220, 230

CHEM 231 and CHEM 210 or CHEM 224
MATH 241, 242 or MATH 251, 252

PHYS 210, 211 or PHYS 250, 260

Environmental Sciences: Emphasis on Physical Sciences
BIOL 210, 220, 230 or BIOL 110
CHEM 231 and CHEM 210 or CHEM 224
MATH 251, 252
PHYS 250, 260

Environmental Sciences: Emphasis on Social Sciences
BIOL 210, 220, 230 or BIOL 110
CHEM 210, 220 or CHEM 224, 225 or CHEM 231
MATH 241, 242 or MATH 251, 252

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 110 or 230 and BIOL 180, 210, 220
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
ENGL 100 and ENGL 110 or 120 or 130 or 140
MATH 241, 242 or MATH 251, 252

At least 10 units, including 1 lab course, from the following list (other UC-transferable Natural & Physical courses may be acceptable):

BIOL 210, 220, 230, CHEM 210, 220, 224, 225, PHYS 250, 260 and/or 270

At least 20 units, including at least 1 course from each of the following categories (other UC-transferable Economics, Political Science, Psychology or Sociology courses may be acceptable): A) Economics: ECON 100 and 102; B) Political Science or History: HIST 100, 101, 201, 202, PLSC 110, 200 or 210; C) Humanities: UC-

transferable courses in language, art, music, philosophy, rhetoric, etc.

University of California, Davis

Agricultural and Managerial Economics B.S.

ACTG 121, 131
CIS 240/241 or 250/251
ECON 100, 102
ECON 123 or MATH 251 or PSYC 121
MATH 241 or 251 or 251, 252
27 semester units of Social Science, Natural Science, Agricultural Science

Agricultural Systems and Environment B.S.

BIOL 110, 210, 230
CHEM 210, 220 or CHEM 224, 225
ECON 102
ECON 123 or MATH 200 or PSYC 121

MATH 241 or 251
PHYS 210, 220
ACTG 121, 131 (Agricultural and Environmental Management specialization option)
ECON 100 (Agricultural and Environmental Management specialization option)

Animal Science and Management B.S.

ACTG 121, 131
BIOL 110, 210, 220, 230
CHEM 210, 220 or CHEM 224, 225
ECON 100, 102
MATH 241 or MATH 251

Environmental and Resource Sciences B.S.

BIOL 110, 210, 220, 230
CHEM 210, 220 or CHEM 224, 225
CIS 240/241, 250/251
ECON 123 or MATH 200 and PSYC 121
GEOL 100 or GEOL 210
MATH 241 or MATH 251 or MATH 251, 252
PHYS 210, 220

Environmental Biology and Management B.S.

BIOL 110, 210, 220, 230
CHEM 210, 220 or CHEM 224, 225
CIS 250/251
ECON 102 or PLSC 200 or PLSC 210 (Choose ECON 102 if the Environmental Management Option is selected)

MATH 241 or MATH 251 or MATH 251, 252
PHYS 210, 220 or PHYS 250, 260, 270

One course from the following:
MATH 242, 252, 253, 270 or

275 (Choose MATH 270 and 275 if the Environmental Biology Option is selected)

Environmental Horticulture and Urban Forestry B.S.

BIOL 110, 220
ECON 123 or MATH 200 or PSYC 121 or MATH 241 or MATH 251
CHEM 210, 220 or CHEM 224, 225
GEOG 100, 110
HORT 311 or HORT 312
SOC 100
PHYS 100
PSYC 100

Environmental Policy Analysis & Planning B.S.

BIOL 100 or BIOL 110, 230
BIOL 110, 210 or GEOL 100
CHEM 210, 220 or CHEM 224, 225
CIS 240/241 or 250/251
ECON 100, 102
ECON 123 or MATH 200 or PSYC 121
MATH 241 or MATH 251 or MATH 251, 252
PLSC 200 or PLSC 210

Environmental Toxicology B.S.

BIOL 110, 210, 220, 230
CHEM 231, 232
CHEM 210, 220 or CHEM 224, 225
MATH 241 or MATH 251 or MATH 251, 252
PHYS 210, 220

Hydrologic Science B.S.

BIOL 110, 210, 220, 230
CHEM 210, 220 or 224, 225
CIS 240/241
GEOL 210
MATH 251, 252, 253, 270, 275
PHYS 250, 260, 270

International Agricultural Development (Natural Sciences) B.S.

BIOL 110, 210, 220, 230
CHEM 210, 220 or 224, 225
CIS 250/251
ECON 100, 102
MATH 241 or MATH 251

International Agricultural Development (Social Sciences) B.S.

BIOL 100
CA&S 310
CHEM 100
ECON 100, 102
ECON 123 or MATH 200 or PSYC 121
11 units from the following:
ANTH 110; PLSC 110; SOCI 100

Range & Wildlands Science B.S.

BIOL 110, 210, 220, 230

CHEM 210, 220 or CHEM 224, 225

CIS 240/241 or CIS 250/251
ECON 100, 102
GEOL 100, 101
MATH 241 or MATH 251

Soil & Water Science B.S.
BIOL 110, 210, 220, 230
CIS 240/241
CHEM 210, 220 or CHEM 224, 225

ECON 100, 102
ECON 123 or MATH 200 or PSYC 121
MATH 241 or MATH 251
GEOL 210

PHYS 210, 220
5 semesters units of physical sciences, biological sciences, and/or mathematics

University of California, Riverside

Environmental Science

CHEM 210, 220 or 224, 225
CIS 110
MATH 222
PLSC 210
BIOL 210, 220, 230, CHEM 250, 231, 232, MATH 251, 252 (for Environmental Toxicology option)

BIOL 210, 220, 230, CHEM 231, 232, GEOL 210, MATH 251, 252, PHYS 250, 260, 270 and One course from the following:
BIOL 200, CHEM 250 or MATH 253 (for Natural Science option)

BIOL 100, 110, GEOL 210 (for Social Science option)
BIOL 210, 220, 230, CHEM 231, 232, GEOL 210, MATH 251, 252, PHYS 250, 260, 270 (for Soil Science option)

CHEM 231, 232 (recommended for Social Science option)
CHEM 250, MATH 253 (recommended for Soil Science option)

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,
Fresno***Agricultural Education
(Agricultural Communication
Option)*

BCST 110 or JOUR 110
CHEM 410
ENGL 110 or 165
HORT 320
JOUR 120

*Agricultural Education
(Teacher Preparation Option)*

ENGL 110 or ENGL 165
CHEM 410

*Plant Science (Production
Management Emphasis)*

CHEM 410, 420

*Plant Science (Science &
Technology Emphasis)*

BIOL 240
CHEM 250, 410

**California State University,
Hayward***Environmental Studies*

BIOL 184 and 200
CHEM 100, 192
ECON 102, 123
GEOG 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
GEOG 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, or 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
GEOG 100
MATH 200
PHYS 210, 220

*Environmental Studies B.A.:
Concentration in Natural
Sciences*

BIOL 100
CHEM 210, 220
GEOL 100 or GEOG 210
MATH 125

*Environmental Studies B.A.:
Concentration in Social
Sciences or Humanities*

BIOL 100
CHEM 210
ECON 102
GEOG 100
MATH 125

**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

**X. HUMANITIES/
LANGUAGES - ENGLISH,
FOREIGN LANGUAGES,
HISTORY, LINGUISTICS,
PHILOSOPHY, RHETORIC****University of California,
Berkeley***English*

LIT 151, 231
ENGL 100 and ENGL 110 or 120
or 130 or 140

History

HIST 100, 101 and HIST 201 or
202

Italian

ITAL 111, 112, 121, 122

Rhetoric

SPCH 100

University of California, Davis*Chinese A.B.*

CHIN 111, 112, 121, 122

*Classical Civilization
(Classical & Mediterranean)
A.B.*

Two courses selected from: ART
101, LIT 301, PHIL 160

Comparative Literature A.B.

LIT 301, 302
HIST 100, 101 (recommended)
ANTH 110 (recommended)

English A.B.

ENGL 100 or 110
LIT 231, 232
ENGL 130 or LIT 115

French B.S.

FREN 110, 120 or FREN 111,
112, 121, 122
FREN 140
FREN 130 or FREN 131, 132

German A.B.

GERM 110, 120 or GERM 111,
112, 121, 122
GERM 130 or GERM 131, 132

Italian A.B.

ITAL 110 or 111, 112

Japanese A.B.

JAPN 110, 120 or JAPN 111,
112, 121, 122

Medieval Studies A.B.

ART 102 (recommended)
Latin or other European
languages are strongly
recommended
PHIL 160 (recommended)

Religious Studies A.B.

ANTH 110
PHIL 300

*Rhetoric and Communication
A.B.*

ECON 123 or MATH 200 or
PSYC 121
SOCI 100
PSYC 100
SPCH 100

Spanish A.B.

SPAN 110, 120, 130 or SPAN
111, 112, 121, 122, 131, 132
SPAN 140

**University of California,
Riverside***Chinese*

CHIN 131, 132

Comparative Literature

Intermediate proficiency (130-
level) in one modern foreign
language

English

ENGL 100 and ENGL 110, 120
or 130
LIT 201, 231 and 232

French

FREN 130 or 131, 132

German

GERM 130 or 131, 132

History

HIST 100, 101, 201, 202
ACTG 121 (Cooperative major
with Admin Studies)
CIS 110 (Cooperative major with
Admin Studies)
ECON 123 (Cooperative major
with Admin Studies)
SOCI 100 (recommended for
Cooperative major with Law
and Society)

Human Development

BIOL 100 or 210, 220
BIOL 110 or 230
BIOL 200, 210, 220
PSYC 100 (w/ grade "B" or
better), 121

Language

Intermediate proficiency (130-
level) in two foreign languages
(Two Foreign Language Option)
Intermediate proficiency (130-
level) in three foreign languages
(Three Foreign Language Option)

Linguistics

Foreign language proficiency
equivalent to 4 semesters (16
units) of study, including at
least 2 semesters proficiency (8
units) in one language.

Philosophy

SOCI 100 (recommended for
Cooperative major with Law
and Society)

Spanish

SPAN 130 or 131, 132

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

Literature
ENGL 110
Two courses from the following list: Lit 101, 105, 111, 113, 143, 151, 201, 202, 231, 232, 251, 301, 302, 430

Philosophy
PHIL 100, 244
Philosophy (concentration in religious thoughts)
PHIL 100, 244

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 100, 200
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
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, Fresno

English
ENGL 110 or ENGL 165
French
FREN 110, 120, 130, 140

History
HIST 100, 101

Philosophy
PHIL 160

Philosophy (Pre-Law Option)
ADMJ 104
PHIL 160
PHIL 244 or PHIL 246

Philosophy (Religious Option)
PHIL 160

Spanish
SPAN 110, 120, 130, 140

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

French
FREN 110 or FREN 111, 112
FREN 120 or FREN 121, 122
FREN 130 or FREN 131, 132

German
GERM 110 or GERM 111, 112
GERM 120 or GERM 121, 122
GERM 130 or GERM 131, 132

History
HIST 100, 101, 201 and 202

Humanities
HUM 101, 102

Philosophy
PHIL 100, 160 and 246
SOSC 111

San Francisco State University

Chinese
CHIN 111, 112, 121, 122, 131 and 132

English
ENGL 100, 110
LIT 101, 201, 202

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
SOSC 111

Spanish
SPAN 110
SPAN 120 or SPAN 121 and 122
SPAN 130 or 131, 132

San Jose State University

Chinese B.A.
CHIN 111, 112, 121, and 122

English B.A.
ENGL 161
LIT 201, 202, 231, 232

French B.A.
FREN 110 or 111, 112
FREN 120 or 121, 122
FREN 130, 140

German B.A.
GERM 110 or 111, 112
GERM 120 or GERM 121, 122

History B.A.
HIST 100, 101
Four of the following: ANTH 110, ECON 100, GEOG 110, PLSC 100 or 110, PSYC 100, SOCI 100

Japanese
JAPA 110 or JAPA 111, 112
JAPA 120 or JAPA 121, 122

Linguistics B.A. Natural Language and Computer Emphasis
CIS 250/251
ENGL 100
MATH 200, 251, 252, 253
SOSC 111
SPCH 100

Philosophy B.A.
PHIL 160

Spanish B.A.
SPAN 110 or SPAN 111, 112
SPAN 120 or 121, 122
SPAN 130 or SPAN 131, 132
SPAN 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

XI. INDUSTRIAL ARTS/ TECHNOLOGY - AVIATION, CONSTRUCTION MANAGEMENT, MARINE TRANSPORTATION

Embry-Riddle Aeronautical University

Aviation Computer Science
AERO 126
CIS 290/291, 360/361 and CIS 115/116, 250/251
ECON 100 or 102
MATH 251, 252
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
BUS 201
CHEM 210 or 224 or 410

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
SPCH 100
WELD 300

**California State University,
Fresno**

*Construction Management
(Architecture Speciality)*

ARCH 140, 145, 210, 230
ENGR 111
MATH 242 or MATH 251, 252,
253
PHYS 210, 220

*Construction Management
(Management Speciality)*

ENGR 111
MATH 242 or MATH 251, 252,
253
PHYS 210, 220

*Industrial Technology
(Computer-Aided Design
Management or Graphic
Communications Management
Speciality)*

DRAF 121, 122
ECON 100, 102
MATH 242 or MATH 251, 252,
253
PHYS 210, 220
WELD 111 and MTT 200

*Industrial Technology
(Computer-Aided
Manufacturing Management,
Industrial Control Systems
Management or
Transportation System
Management Speciality)*

DRAF 121, 122
ECON 100, 102
ELEC 260
MATH 242 or MATH 251, 252,
253
PHYS 210, 220
WELD 111 and MTT 200
ELEC 310 (Industrial Control
Systems Management only)

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.: Aviation
Maintenance Concentration*

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
PHYS 250, 260

*Aviation B.S.: Aviation
Operation Concentration*

AERO 100, 301, 321, 331, 351
AERO 115 or AERO 320, 340
AERO 126 or AERO 330, 350
BUS 295
CHEM 410, 420
DRAF 120 or TA&G 201
ECON 123 or MATH 200
ENGR 270
MATH 241
PHYS 210, 220

*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 Design B.A.

ARCH 140, ART 201 or TA&G
201
ART 101, 102, and 103
ART 301 or ART 305

*Industrial Technology B.S.:
Document Design and
Management Concentration*

CHEM 210, 220
DRAF 120 or TA&G 201
MATH 130, 241 and 251
PHYS 210, 220

*Industrial Technology B.S.:
Electronics and Computer
Technology Concentration*

CHEM 210, 220
ELEC 110, 210, 260 and 310
MATH 130, 241 and 251
PHYS 210, 220

*Industrial Technology B.S.:
Manufacturing System
Concentration*

CHEM 210, 220
DRAF 120 or TA&G 201
MATH 130, 241 and 251
PHYS 210, 220

*Industrial Technology B.S.:
Quality Assurance
Concentration*

CHEM 210, 220
ECON 123
MATH 130, 200, 241 and 251
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

**California State University,
California Maritime Academy**

Marine Transportation

BUSD 105, 204, 405
CHEM 210 or 224
ECON 100
ENGL 100, 165
HIST 201, 202
MATH 130
PHYS 210
PLSC 205 or 210 or 212
2 courses in Art, Humanities,
Literature or Philosophy on
IGETC list, Area 3

1 CSU transferable course (3
units) in Natural Science e.g.
Biology, Geology, etc.

1 CSU transferable course (3
units) in Social Science.

All candidates must meet the
physical requirements for a
Coast Guard License, including
color vision, eyesight, and
general health.

In addition, applicants must
submit verbal and mathematics
test scores from either the
Scholastic Aptitude Test (SAT-
I) or American College Test (ACT).

**XII. LIBERAL STUDIES -
LIBERAL ARTS, HOME
ECONOMICS,
INTERDISCIPLINARY
STUDIES**

**University of California,
Riverside**

Liberal Studies

Proficiency at the 4th semester
level for one language (for
foreign language option)

Complete 8 units from the
following: CIS 110, MATH
251, 252, 253 and/or 275 (for
Math option)

Pre-Concentration Requirement:

Complete 43 units from the following
four groups, with a minimum of 8
units from each group:

Group 1: BIOL 100, 110, 200,
210, 220, 230, CHEM 210, 220
or 224, 225, CHEM 250, GEOL
210, PHYS 250, 260, 270 and/
or SOCI 340

Group 2: ANTH 110, BIOL 125,
ECON 100, 102, GEOG 110,
HIST 100, 101, 201, 202, HSCI
100, PLSC 110, 130, 210,
PSYC 100 and/or SOCI 100

Group 3: PHIL 100 and/or PHIL
244 or 246

Group 4: ART 101, 102, 103, 105
and/or SPCH 100

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, Fresno

Home Economics (Child and Family Studies Speciality)
 ART 141
 BIOL 110
 CA&S 310
 PSYC 201
Home Economics (Clothing & Textiles Speciality)
 ART 141
 BIOL 110
 CHEM 410, 420
 ECON 102
 PSYC 100
Home Economics (Consumer Science & Housing Speciality)
 ART 141
 ECON 100, 102

Home Economics (Fashion Merchandising Speciality)

ACTG 121
 CA&S 310
 ECON 100, 102

Home Economics (General Home Economics Speciality)

ART 141
 CA&S 310

Home Economics (Home Economic Teacher Education Speciality)

ART 141
 BIOL 110
 CHEM 410
 ECON 102
 PSYC 100

Liberal Studies

BUS 295
 MATH 130
 PSYC 201

One course from the following:

ART 101, ART 102, ENGL 162, ENGL 163, HUM 101, HUM 102

Six units selected from: HIST 100, 101, 201, 202 (HIST 201 is required if not completed in General Education)

One course from the following:

GEOG 100, GEOL 100/101, GEOL 210

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 100, 200, 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, Monterey Bay

Liberal Studies

ANTH 110 or SOCI 100 or PLSC 100

ART 101, 102, 305 or 351

BIOL 110

CHEM 100 or 210

GEOL 100, 101 or 210 or METE

100 or OCEN 100, 101 or

PHYS 100 or 210

HIST 100 or 101

HUM. 101 or 102

MUS. 100, 131 or 202

SPCH 100

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
 HIST 201 or 202
 PLSC 200
 SPCH 100
 One transferable literature course (Excluding composition, film and children's literature courses.)

San Francisco State University

Liberal Studies

Students must complete 56 transferable units with a minimum of 30 units from the CSU general education list of courses

Students interested in Elementary School teaching should also take the following:

ANTH 370 or ETHN 425 or

HIST 260

PSYC 201

ETHN 101 or 102 or 350 or

SPCH 150

San Jose State University

Liberal Studies B.A.:

ART 101, 102 or ART 102, 103 or ART 305 or ART 411

BIOL 100

CHEM 410

ENGL 100, 165

GEOG 110

HIST 100, 101

LIT 201, 202, 231 and 232

MUS 202

PSYC 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

XIII. LIFE/PHYSICAL SCIENCE - ANIMAL SCIENCE, BIOLOGY/ BIOLOGICAL SCIENCES, BOTANY, CHEMISTRY, ENTOMOLOGY, GENETICS, GEOLOGY, METEOROLOGY, PHYSICS, PHYSIOLOGY, ZOOLOGY

University of California, Berkeley

Astrophysics

ASTR 100 and 101

(recommended)

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 and 232 (ACS exam required beginning fall 1999), and 250

ENGL 100 and 110 or 120 or 130 or 140

MATH 251, 252, 270 and 275

PHYS 250, 260, 270

MATH 253 (required for B.S. and recommended for A.B. degree)

Earth Science

BIOL 210, 220, 230

GEOL 100 or 210

CHEM 210, 220 or CHEM 224, 225

MATH 241, 242

PHYS 210 & 211 or PHYS 250

PHYS 220 & 221

PHYS 260

Genetics and Plant Biology

BIOL 210, 220, 230

CHEM 210 or 224 and CHEM 231, 232

CIS 240/241 or MATH 200

ECON 100, 102

ENGL 100 and ENGL 110 or 120 or 130 or 140

HIST 201

MATH 241, 242 or MATH 251, 252

PLSC 200 or 210

PHYS 210, 211, 220, 221 or

PHYS 250, 260, 270

Geology

CHEM 210, 220 or CHEM 224, 225

GEOL 100 or GEOL 210

MATH 251, 252

PHYS 250, 260

Geophysics

CHEM 210, 220 or CHEM 224, 225

MATH 251, 252, 253, 270, 275

PHYS 250, 260 and 270

Integrative Biology

BIOL 210, 220, 230

CHEM 210 or 224 and CHEM 220 or 225 and CHEM 231, 232

MATH 241 or 251

PHYS 210, 211, 220, 221 or

PHYS 250, 260

MATH 242, 252, 253

(recommended)

Additional course work in mathematics, statistics, biochemistry, history of biology, and/or foreign language is recommended

Molecular & Cell Biology,

Plan I: Emphases in Biochemistry and Molecular Biology, Genetics, or Immunology

BIOL 210, 220 (Valid through Summer 1998 only), 230

CHEM 210 or 224 and CHEM 220 or 225 and CHEM 231 and

232 (ACS exam required

beginning fall 1999), 250

MATH 251, 252

PHYS 210, 211, 220, 221 or

PHYS 250, 260

Molecular & Cell Biology, Plan II: Emphases in Cell and Development Biology, or Neurobiology

BIOL 210, 220 (Valid through Summer 1998 only), 230

CHEM 210 or 224 and CHEM

220 or 225 and CHEM 231 and

232 (ACS exam required

beginning fall 1999)

MATH 251, 252

PHYS 210, 211, 220, 221 or

PHYS 250, 260

BIOL 160, 260

Physical Sciences, Plan A: Enables the student preparing for a career in environmental or health science to major in physical science with simultaneously acquiring the pre-professional preparation

CIS 240/241

CHEM 210, 220 or 224, 225

MATH 241, 242

PHYS 210, 211, 220, 221

Physical Sciences, Plan B:

Enables the student to complete much of the departmental major while also studying astronomy and geology as well as computer science

CHEM 210, 220 or CHEM 224, 225

GEOL 100, 101

MATH 251, 252, 253, 270, 275

PHYS 250, 260, 270

Physics

MATH 251, 252, 253, 270 and 275

PHYS 250, 260, 270

CHEM 210, 220 or CHEM 224,

225 (recommended)

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 (aquaculture option)

Applied Ecology

BIOL 110, 210, 220

CHEM 210.220

CIS 110

ECON 100

ENGL 100

PHYS 250,260, 270

BIOL 200 (recommended)

Applied Physics B.S.

CHEM 210, 220 or CHEM 224, 225

CIS 240/241

MATH 251, 252, 253, 270, 275

PHYS 250, 260, 270

CHEM 231, 232 (Chemical

Physics Concentration option)

GEOL 210 (Geophysics

Concentration option)

Atmospheric Science B.S.

BIOL 110, 230

CHEM 210, 220 or CHEM 224, 225

CIS 240/241

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 or

PSYC 121

MATH 241, 242 or MATH 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 or

PSYC 121

MATH 241, 242 or MATH 251, 252 or MATH 251, 252, 253

PHYS 210, 220

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 or

PSYC 121

PHYS 210, 220

MATH 241 or MATH 251

(recommended)

Biological Sciences 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 or

PSYC 121

MATH 241, 242 or MATH 251,

252

PHYS 210, 220

Biotechnology 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 or

PSYC 121

MATH 241 or MATH 251

PHYS 210, 220

Chemistry A.B.

CHEM 210 or 224 and CHEM 220 or 225 and CHEM 231, 232

PHYS 210, 220

MATH 241, 242 or MATH 251, 252 or MATH 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

Crop Science and Management B.S.

BIOL 110, 210, 220, 230

ECON 100, 102

CHEM 210, 220 or CHEM 224, 225

ECON 123 or MATH 200 or

PSYC 121

MATH 241 or MATH 251

PHYS 210, 220

Entomology B.S.

BIOL 110, 210, 220, 230

CHEM 210, 220 or CHEM 224, 225

CIS 240/241 or MATH 241 or

MATH 251

ECON 123 or MATH 200 and

PSYC 121

MATH 241 or MATH 251

Evolution and Ecology A.B.

BIOL 110, 210, 220, 230

CHEM 210, 220 or CHEM 224, 225

MATH 241 or MATH 251

PHYS 210, 220

Evolution and Ecology B.S.

BIOL 110, 210, 220, 230

CHEM 210, 220 or CHEM 224, 225

CHEM 231, 232

MATH 241, 242 or MATH 251, 252 or MATH 251, 252, 253

PHYS 210, 220

Fermentation Science B.S.

BIOL 110, 230

CHEM 210 or 224 and CHEM 220 or 225 and CHEM 231, 232

CIS 240/241 or CIS 250/251

MATH 241 or MATH 251 or

MATH 251, 252

PHYS 210, 220

Fiber & Polymer Science B.S.

CHEM 210, 220 or CHEM 224, 225

CHEM 231, 232

CIS 250/251

ECON 123 or MATH 200 or

PSYC 121

ENGR 270

PHYS 210, 220 or PHYS 250, 260, 270

MATH 241, 242 or MATH 251,

252 or MATH 251, 252, 253

Food Biochemistry B.S.

BIOL 110, 210, 220, 230
 MATH 241, 242 or MATH 251,
 252 or MATH 251, 252, 253
 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, CIS 250/251,
 ECON 123 or MATH 200 or
 PSYC 121, MATH 253, 270,
 275

Genetics B.S.

BIOL 110, 210, 220, 230
 CHEM 231, 232
 CHEM 210, 220 or CHEM 224,
 225
 ECON 123 or MATH 200 or
 PSYC 121
 MATH 241, 242 or MATH 251,
 252 or MATH 251, 252, 253
 PHYS 210, 220

Geology A.B.

CHEM 210, 220 or CHEM 224,
 225
 ECON 123 or MATH 200 or
 PSYC 121
 GEOL 210
 MATH 241 or MATH 251 or
 MATH 251, 252
 PHYS 210, 220

Geology B.S.

CHEM 210, 220 or CHEM 224,
 225
 MATH 251, 252, 253
 GEOL 210
 PHYS 210, 220 or PHYS 250,
 260, 270
 MATH 270, 275 (recommended)

Human Development B.S.

ANTH 110
 BIOL 100 or BIOL 110, 230
 BIOL 125 and BIOL 130 or 260
 CA&S 310
 ECON 123 or MATH 200 or
 PSYC 121
 5 semester units selected from:
 HIST 260, PLSC 200 or 210
 PSYC 100, 105

Microbiology A.B.

BIOL 110, 210, 220, 230
 CHEM 231, 232
 CHEM 210, 220 or CHEM 224,
 225
 ECON 123 or MATH 200 or
 PSYC 121
 MATH 241 or MATH 251 or
 MATH 251, 252
 PHYS 210, 220

Microbiology A.B.

(Bacteriology)
 BIOL 110, 210, 220 and 230
 CHEM 210, 220, 231 and 232
 MATH 200
 MATH 241, 242 or 251, 252
 BIOL 240 (recommended)

CHEM 250 (recommended)

Microbiology B.S.

BIOL 110, 210, 220, 230
 CHEM 231, 232
 CHEM 210, 220 or CHEM 224,
 225
 ECON 123 or MATH 200 or
 PSYC 121
 MATH 241, 242 or MATH 251,
 252
 PHYS 210, 220

Nature and Culture A.B.

ANTH 110
 CHEM 210, 220 or CHEM 224,
 225
 BIOL 110, 210, 220, 230
 ENGL 110 or LIT 301 or LIT 302
 or LIT 301, 302
 ECON 123 or MATH 200 or
 PSYC 121 (recommended)

Neurobiology, Physiology and Behavior

BIOL 110, 210, 220, 230
 CHEM 231, 232
 CHEM 210, 220 or CHEM 224,
 225

ECON 123 or MATH 200 or
 PSYC 121

MATH 241, 242 or MATH 251,
 252 or MATH 251, 252, 253
 PHYS 210, 220

Physics A.B. & B.S.

CIS 240/241
 MATH 251, 252, 253, 270, 275
 PHYS 250, 260, 270
 CHEM 210, 220 or CHEM 224,
 225 (required for B.S. ,
 recommended for A.B.)
 PHYS 100 (recommended)

Physiology B.S.

BIOL 110, 210, 220, 230
 CHEM 231, 232
 CHEM 210, 220 or CHEM 224,
 225
 ECON 123 or MATH 200, PSYC
 121
 MATH 241, 242 or MATH 251,
 252 or MATH 251, 252, 253
 PHYS 210, 220

Plant Biology (Botany) A.B.

BIOL 110, 210, 220, 230
 ECON 123 or MATH 200 or
 PSYC 121
 CHEM 210, 220 or CHEM 224,
 225

Plant Biology (Botany) B.S.

BIOL 110, 210, 220, 230
 ECON 123 or MATH 200 or
 PSYC 121
 CHEM 210, 220 or CHEM 224,
 225
 MATH 241, 242 or MATH 251,
 252
 PHYS 210, 220

Plant Science B.S.

BIOL 110, 210, 220, 230

CHEM 210, 220 or CHEM 224,
 225
 ECON 100, 102
 MATH 241 or 251

Wildlife, Fish & Conservation Biology B.S.

BIOL 110, 210, 220, 230
 MATH 241 or 251
 CHEM 210, 220 or CHEM 224,
 225
 PHYS 210, 220

Zoology A.B.

BIOL 110, 210, 220, 230
 CHEM 210, 220 or CHEM 224,
 225
 MATH 241 or 251
 PHYS 210, 220
 GEOL 220 (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

University of California, Irvine
Biological Sciences

BIOL 110, 210, 220
 CHEM 210, 220
 ENGL 100
 PHYS 250, 260, 270
 BIOL 200 (recommended)

University of California, Los Angeles
Biochemistry

BIOL 210, 220, 230
 CHEM 210, 220
 MATH 251, 252, 253
 PHYS 250, 260, 270
 MATH 275 (recommended)

Chemistry

CHEM 210, 220
 MATH 251, 252, 253, 275
 PHYS 250, 260, 270

University of California, Riverside
Biochemistry

BIOL 210, 220, 230
 CHEM 210, 220 or 224, 225
 MATH 251, 252, 253
 CHEM 250 (required for
 Chemistry emphasis;
 recommended for Biology
 emphasis)
 BIOL 200 (recommended)

Biology

BIOL 200, 210, 220, 230
 CHEM 210, 220 or 224, 225
 CHEM 231, 232
 MATH 251, 252

Botany/Plant Sciences

BIOL 200, 210, 220, 230

CHEM 210, 220 or 224, 225
 CHEM 231, 232
 MATH 251, 252
 MATH 253 (recommended)

Chemistry

CHEM 210, 220 or 224, 225
 CHEM 250
 MATH 251, 252, 253
 PHYS 250, 260, 270
 CHEM 231, 232 and MATH 275
 (recommended for B.S. degree)
 MATH 275 (required for B.S.
 degree with Physics option)

Entomology

BIOL 200, 210, 220, 230
 CHEM 210, 220 or 224, 225
 CHEM 231, 232
 MATH 251, 252

Geology

BIOL 110 or 230
 CHEM 210, 220 or 224, 225
 GEOL 210
 MATH 251, 252, 253
 PHYS 250, 260, 270
 BIOL 100 or 210, 220 and BIOL
 200, 210, 220 (for Paleontology
 Option)

Geophysics

CHEM 210, 220 or 224, 225
 GEOL 210
 MATH 251, 252, 253, 275
 PHYS 250, 260, 270

Physical Sciences

BIOL 210, 220, 230
 CHEM 210, 220 or 224, 225
 GEOL 210
 MATH 251, 252, 253, 275
 PHYS 250, 260, 270

Physics

CHEM 210, 220 or 224, 225
 MATH 251, 252, 253, 275
 PHYS 250, 260, 270

Psychobiology

BIOL 200, 210, 220, 230
 CHEM 210, 220 or 224, 225
 CHEM 231, 232
 MATH 200 or PSYC 121
 MATH 251, 252
 PHYS 250, 260, 270
 PSYC 100 (w/ grade "B" or
 better) (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 200
 MATH 241, 242 or MATH 251, 252, 253
 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

PHYS 250, 260, 270

Menlo College*Biotechnology Management*

ACTG 121, 131
 BUS 100
 CHEM 410
 CIS 110
 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

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, Fresno*Animal Sciences (Basic Animal Science Option)*

BIOL 110 or BIOL 210, 220, 230
 BIOL 240
 CA&S 310
 CHEM 210 or CHEM 410

Animal Sciences (Dairy Science Option)

BIOL 110 or BIOL 210, 220, 230
 CA&S 310
 CHEM 210 or CHEM 410

Animal Sciences (Meat Technology Option)

BIOL 110 or BIOL 210, 220, 230
 BIOL 240
 CA&S 310
 CHEM 210 or CHEM 410
 CHEM 420

Animal Sciences (Preveterinary Medicine Option)

BIOL 210, 220, 230, 240
 CA&S 310
 CHEM 210, 220 and CHEM 231
 PHYS 210, 220

Animal Sciences (Production Management Option)

BIOL 110 or BIOL 210, 220, 230
 CA&S 310
 CHEM 210 or CHEM 410

Biology (Ecology Option)

BIOL 210, 220, 230
 CIS 240/241
 GEOG 100, 101 or GEOL 210
 MATH 251, 252, 253
 PHYS 210

Biology (Molecular/Cellular Biology Option)

BIOL 210, 220, 230
 CHEM 210, 220 and CHEM 231, 232
 MATH 251, 252, 253
 PHYS 210, 220

Biology (Organismic/General Biology Option)

BIOL 210, 220, 230
 CHEM 410
 GEOL 100, 101 or GEOL 210 or PHYS 210

Biology (Physiology Option)

BIOL 210, 220, 230
 CHEM 210, 220 and CHEM 231, 232
 MATH 251, 252, 253
 PHYS 210, 220

Chemistry, B.A.

BIOL 210, 220, 230
 CHEM 210, 220 and CHEM 231, 232
 MATH 251, 252, 253
 PHYS 210, 220

Chemistry, B.S.

CHEM 210, 220 and CHEM 231, 232
 MATH 251, 252, 253
 PHYS 250, 260, 270

Geography

GEOG 100
 METE 100

Geology

CIS 114/115 or CIS 240/241 or CIS 250/251
 CHEM 210, 220
 GEOL 100, 101 or GEOL 210
 MATH 251, 252, 253
 PHYS 210, 220

Health Science (Community Health Option)

BIOL 110
 CHEM 410, 420
 HSCI 100

Health Science (Environmental Health Science/Industrial Hygiene Option)

BIOL 210, 220, 230, 240
 CHEM 210, 220 or CHEM 220, 410 or CHEM 250, 410
 HSCI 100

Health Science (Health Services Option)

HSCI 100
 ECON 100, 102
 HSCI 100

Health Science (Occupational Safety & Health Option)

CHEM 410, 420
 HSCI 100

Natural Sciences (Biology or Earth Science Emphasis)

ASTR 100, 101
 BIOL 210, 220, 230
 CHEM 210, 220, 231
 GEOL 100, 101 or GEOL 210
 MATH 251, 252, 253
 PHYS 210, 220

Natural Sciences (Chemistry Emphasis)

ASTR 100, 101

BIOL 210, 220, 230
 CHEM 210, 220, 231, 232
 GEOL 100, 101 or GEOL 210
 MATH 251, 252, 253
 PHYS 210, 220

Natural Sciences (Physics Emphasis)

ASTR 100, 101
 BIOL 210, 220, 230
 CHEM 210, 220, 231
 GEOL 100, 101 or GEOL 210
 MATH 251, 252, 253
 PHYS 250, 260, 270

Physics

CHEM 210, 220
 MATH 251, 252, 253, 270, 275
 PHYS 250, 260, 270

One course from the following:
 CIS 115/116, CIS 240/241, CIS 250/ 251

California State University, Hayward

Biological Sciences

BIOL 210, 220, 230
 CHEM 210, 220
 MATH 222 or 251
 PHYS 210, 220

Chemistry

CHEM 210, 220, 250
 CIS 240/241
 MATH 251, 252, 253, 270
 PHYS 250, 260, 270

Geology

CHEM 192
 CIS 110
 GEOL 210, 220
 MATH 251
 PALE 110
 PHYS 210, 220

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
 CHEM 220 or PHYS 260 or PHYS 270
 GEOL 210
 MATH 251, 252
 PHYS 250

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.S.: Applied Microbiology, Marine Biology, Medical Microbiology and Immunology Concentrations

BIOL 210, 220, 230
 CHEM 210, 220 and 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.: Conservation and Organismal Concentration

BIOL 110, 210, 220
 CHEM 210, 220 and 231
 PHYS 210

Biological Science B.S.: Entomology Concentration

BIOL 110, 210, 220
 CHEM 210, 220, 231 and 232
 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.: Marine Biology Concentration

BIOL 110, 210, 220
 CHEM 210, 220 and 250
 PHYS 210, 220

Biological Science B.S.: Molecular Biology Concentration

BIOL 110, 210, 220
 CHEM 210, 220
 PHYS 210, 220
 MATH 251

*Biological Science B.S.:
Systems Physiology
Concentration*

BIOL 110, 210, 220
CHEM 210, 220 and 250
PHYS 210, 220
MATH 251

*Biological Science B.S.:
Teaching Concentration*

BIOL 110, 210, 220
CHEM 210, 220, 231 and 232
PHYS 210, 220

*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.A.: Biochemistry
Concentration*

BIOL 110, 210
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 110, 210
CHEM 210, 220, 250
MATH 251, 252, 253
PHYS 250, 260, 270
BIOL 240 (recommended)

Geology B.A.

CHEM 210, 220
CIS 250/250 or ENGR 210
GEOL 210
MATH 251
PHYS 210, 220

*Geology B.S.: Concentration
in Geographic and
Oceanography*

CHEM 210, 220
CIS 250/250 or ENGR 210
MATH 251, 252, 253
PHYS 250, 260, 270

Meteorology B.S.

CHEM 210 or 224
MATH 251, 252, 253

METE 100
PHYS 250, 260

*Natural Science B.A.: Nature
Interpretation Concentration*

ART 351
BIOL 110, 210, 220
CHEM 210, 231

Physical Science

BIOL 100
CHEM 210, 220
GEOL 210
MATH 251
PHYS 210, 220

Physics B.A.

CHEM 224, 225
CIS 240/241 or CIS 250/251
MATH 251, 252, 253
PHYS 250, 260, 270

Physics B.S.

CHEM 210, 220
CIS 240/241 or CIS 250/251
MATH 251, 252, 253
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
MATH 222 or 251
PHYS 210, 220

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

Microbiology 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 250/
251; ECON 123 or MATH 200;
MATH 270 and/or 275

Physics B.S.

CHEM 210, 220
CIS 250/251
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

**XIV. MATHEMATICS AND
STATISTICS****University of California,
Berkeley***Mathematics/Applied
Mathematics*

MATH 251, 252, 253, 270 and
275

Statistics

CIS 240/241
MATH 251, 252, 253, 270, 275
MATH 200 (recommended)

University of California, Davis*Mathematics A.B.*

CIS 240/241 or CIS 250/251
MATH 222 (or high school
equivalent), 251, 252, 253, 270,
275
PHYS 250, 260, 270
6 units of additional non-
Mathematics courses chosen
from natural sciences.

Mathematics B.S.

CIS 240/241 or CIS 250/251
MATH 222 (or high school
equivalent), 251, 252, 253, 270,
275
PHYS 250, 260, 270 (Track 1 and
2 only: Preparation for Graduate
Study and Applied
Mathematics)

PHYS 250, 260, 270 (Track 3
only: Mathematics for
Secondary Teaching)
ECON 123 or MATH 200 and
PSYC 121 (Track 4 only:
General Mathematics)

Statistics A.B.

CIS 240/241 or CIS 250/251
MATH 251, 252, 253, 270, 275

*Statistics B.S. (Computer
Science)*

CIS 250/251, 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,
Riverside***Mathematics*

MATH 251, 252, 253, 275
One course in computer science,
usually CIS 250/251 (for B.A.
degree)
CIS 250/251 (for B.S. degree)

Statistics

MATH 251, 252, 253
CIS 250/251, 290/291 (for
Statistical Computing Option)
ACTG 121, 131, CIS 110, ECON
102, MATH 270 (for
Quantitative Management
Option)

**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 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)

**California State University,
Chico**

Mathematics B.S.
CIS 240/241 and 250/251
MATH 251, 252, 253, 270 and
275

**California State University,
Fresno**

Mathematics
CIS 115/116 or CIS 250/251
MATH 251, 252, 253, 270, 275
PHYS 250

**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, 250/251
MATH 251, 252, 253, 270
PHYS 250, 260
MATH 275 (recommended)
Mathematics B.A.
CIS 240/241 or CIS 250/251
MATH 251, 252, 253
PHYS 250, 260

**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

**XV. 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

American Studies
BIOL 102
ENGL 201
HIST 201
HUM 131

LIT 202
PLSC 200 or 210
SOC 100

Anthropology
ANTH 110
BIOL 125

Cognitive Science
MATH 251

Development Studies

ANTH 110
ECON 100, 102
PLSC 110
MATH 200
BIOL 102 (recommended)
GEOG 110 (recommended)
MATH 241 (recommended)
One year of College level foreign
language

Geography
GEOG 100, 110
OCEN 100

*Human Biodynamics (the
Department of Human
Biodynamics will become part
of the Department of
Integrative Biology beginning
July 1, 1997)*

BIOL 200, 210, 220 and 230
CHEM 210, 220 or 224, 225 and
CHEM 231, 232
MATH 241 or MATH 251
PHYS 210, 211, 220, 221 or
PHYS 250, 260, 270
MATH 242, 252, 253
(recommended)

Additional course work in
mathematics, statistics,
biochemistry, history of
biology, and/or foreign
language is recommended

Interdisciplinary Studies Field

HIST 100, 101
HUM 111, 112

Latin American Studies

ANTH 110 or ECON 100, 102 or
GEOG 110 or PLSC 110 or
SOC 100
SPAN 110, 120, 130

Legal Studies

ECON 100, 102
HIST 100 and 101
MATH 200
PHIL 100

*Political Economy of
Industrial Societies*

ECON 100, 102
MATH 200
PLSC 110
One year of College level foreign
language
HIST 202 (recommended)
MATH 241, 242 or MATH 251,
252 (recommended) (MATH
251, 252 are strongly
recommended over MATH 241,
242)

Political Science

HIST 100 or 101 and HIST 201
or 202
PLSC 110 and PLSC 200 or 210

Psychology

PSYC 100
Two courses : BIOL 230, 210 or
BIOL 230, 220 or BIOL 110 or
BIOL 260 or BIOL 110, 250,
260, 130, 265, 266
One course : BIOL 125 or BIOL
160

Two courses : ANTH 110 or
SOC 100

One course : MATH 200 or
PSYC 121

Social Sciences

HIST 100, 101

Social Welfare

MATH 200
PSYC 100, 121
SOC 100
ANTH 110 (recommended)
ECON 100, 102 (recommended)
PLSC 200 or 210 (recommended)

Sociology

MATH 200
SOC 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

Two courses from the following:
ANTH 110; ECON 100, 102;
GEOG 110; PLSC 110, 200 or
210; PSYC 100 and/or SOC 100

Two courses from the following:
ETHN 300, 425 or 430

American Studies A.B.

ANTH 110
HIST 260
LIT 201 or 202
One course from the following:
ETHN 300, 425 or LIT 240

Anthropology A.B.

ANTH 110
BIOL 125
ECON 123 or MATH 200 or
PSYC 121

Anthropology B.S.

ANTH 110
BIOL 125
BIOL 110, 210, 220, 230
CHEM 210, 220 or CHEM 224,
225
ECON 123 or MATH 200 or
PSYC 121
MATH 241, 242 or MATH 251,
252
GEOL 100, 101 (recommended)
PHYS 210, 220 (recommended)
PSYC 100 (recommended)

*Applied Behavioral Sciences
B.S.*

ANTH 110 or SOC 100
ECON 100, 102
ECON 123 or MATH 200 or
PSYC 121

Chicana/Chicano Studies A.B.

ETHN 300
SPAN 110, 120 or SPAN 111,
112, 121, 122
LIT 240

East Asian Studies A.B.

Two years of Chinese or Japanese
language study: CHIN 111, 112,
121, 122 or JAPN 110, 120 or
JAPN 111, 112, 121, 122

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 MATH 251,
252 or MATH 251, 252, 253
PHYS 250, 260, 270
(recommended)

History A.B.

HIST 260

International Relations A.B.

ECON 100, 102
One course from the following:
ANTH 110; GEOG 110; PLSC
200 or 210, PLSC 110
PLSC 130
Foreign language: 16 to 20 units
in one modern foreign language
ECON 123 or MATH 200 or
PSYC 121 (recommended)

Native American Studies A.B.

One or two courses from the following: ANTH 110, ETHN 300, ETHN 425

Philosophy A.B.

PHIL 100, 160
PHIL 244 or 246

Political Science A.B.

PLSC 200 or 210

Two courses from the following:
PLSC 110, 130, 150 and/or 215

Political Science A.B. (Public Service)

PLSC 200 or 210 or 215

Two courses from the following:
PLSC 110, 130 and/or 150
ECON 100, 102 (recommended)

Psychology A.B.

BIOL 100 or 110, 230 and BIOL 125 or 130 or 260

PSYC 100, 121

ECON 123 or MATH 200 or PSYC 121

One course in Sociology or Cultural Anthropology

Psychology B.S. (Biology)

BIOL 110, 210, 230

CHEM 231, 232

CHEM 210, 220 or CHEM 224, 225

ECON 123 or MATH 200, PSYC 121

MATH 241 or MATH 251 or

MATH 251, 252

PHYS 100 or PHYS 210, 220

PSYC 100, 105

One course in Sociology or Cultural Anthropology

Psychology B.S. (Mathematics)

BIOL 100 or ANTH 110, 230 and BIOL 125 or 130 or 260

CIS 240/241 or CIS 250/251

CHEM 210, 220 or CHEM 224, 225

ECON 123 or MATH 200, PSYC 121

MATH 251, 252, 253

PHYS 100 or PHYS 210, 220

PSYC 100, 105

One course in Sociology or Cultural Anthropology

Sociology A.B.

ANTH 105 or ANTH 110

PHIL 244 or 246

SOCI 100, 105, 300

SOCI 100 or 105

Sociology A.B. (Comparative Studies)

ANTH 110

GEOG 110 or PLSC 110

ECON 100, 102

SOCI 100

Coursework in language instruction in modern foreign language, equivalent to 17 to 20 semester units

Sociology A.B. (Law and Society)

ANTH 105, 110

SOCI 100, 105

PHIL 244 or 246

Sociology A.B. (Social Service)

PSYC 100

5 semesters units from ETHN

300, 425, 430 or LIT 240

SOCI 105

Sociology-Organizational Studies A.B.

ECON 100, 102

SOCI 100

ECON 123 or MATH 200 or PSYC 121

Women's Studies A.B.

Three courses from the following:

ANTH 110, HIST 260, ETHN

300, 425, 430, ENGL 130 or

LIT 115, LIT 201 or 202, LIT

231 or 232 or 231+232, LIT 240

PSYC 100, SOCI 100, 105

University of California, Los Angeles**Cognitive Science**

BIOL 110 or 210

CHEM 100, 192, 210 or 410

MATH 200, 251, 252

PHYS 210 or 250

PSYC 100

Psychobiology

BIOL 210, 220

CHEM 210, 220, 231, 232

MATH 200, 251, 252

PHYS 250, 260, 270

CIS 250/251 (recommended)

University of California, Riverside**Anthropology**

ANTH 110

BIOL 125

SOCI 100 (recommended for Cooperative major with Law and Society)

Asian Studies

ART 105

Intermediate level proficiency in either Chinese or Japanese

Geography

GEOG 110

GEOG 210

BIOL 200, 210, 220, 230, CHEM

210, 220 or 224, 225, MATH

251, 252, PHYS 250, 260, 270

(for Biogeography Option)

CHEM 210, 220 or 224, 225,

MATH 251, 252, 253, PHYS

250, 260, 270 (for

Geomorphology Option)

ECON 100, PLSC 210, MATH

251, 252, 253 (for Location and

Urban/Political Analysis

Option)

Latin American Studies

SPAN 130

Political Science

PLSC 110, 130, 210

MATH 200 (recommended)

ACTG 121 (recommended for Cooperative major with Admin Studies)

CIS 110 (recommended for Cooperative major with Admin Studies)

ECON 123 (recommended for Cooperative major with Admin Studies)

SOCI 100 (recommended for Cooperative major with Law and Society)

Psychology

PSYC 100 (w/ grade "B" or better), 121

Complete 6 units from the following: BIOL 100 or 210, 220, BIOL 110 or 230 and/or BIOL 200, 210, 220

Complete 6 units from the following: CHEM 100, CHEM 210, 220 or 224, 225 and/or PHYS 250, 260, 270

Any Geoscience course except cultural geography.

Public Service/Political Science

ECON 102

MATH 200

PLSC 110 or 130 and PLSC 210

SOCI 100

Russian Studies

Intermediate level proficiency in Russian

Social Relations

ANTH 110

PSYC 100 (w/ grade "B" or better for B.S. degree)

SOCI 100

Sociology

SOCI 100

One additional Sociology course
ACTG 121, 131 (Cooperative major with Admin Studies)

CIS 110 (Cooperative major with Admin Studies)

ECON 123 (Cooperative major with Admin Studies)

University of California, Santa Barbara**Psychology**

BIOL 250 and BIOL 110 or 130

CHEM 100 or 192

CIS 240

MATH 241

MATH 200 or PSYC 121

PHYS 100 or 210

PSYC 100, 105

University of California, Santa Cruz**Anthropology**

ANTH 110

BIOL 125

Politics

One course from the following:
PLSC 100, 110, 130, 150, 170, 200, 210, 212, 215, 220, 250, 255 or 260

Psychology

MATH 200 or PSYC 121

(Preferable)

PSYC 200 or 201

PSYC 100, 105

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)

California State University, Chico**Geography B.A.**

GEOG 100, 110

International Relations 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, Fresno**Anthropology**

ANTH 110

BIOL 125

Child Development

PSYC 100, 201

SOCI 100

Child Development

PSYC 100, 201
SOCI 100

Political Science

PLSC 100

Psychology

PSYC 100

Social Work

ECON 100, 102

Sociology

SOCI 100

**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,
Monterey Bay**

*Earth Systems Science and
Policy*

ECON 100
GEOG 100, 110
HIST 101
PLSC 100, 110, 130

Global Studies

ECON 100, 102
GEOG 100, 110
HIST 101
PLSC 100, 110, 130

*Social and Behavioral
Sciences*

ANTH 110 or SOCI 100
BIOL 110 or 260
ECON 100
ETHN 102
HIST 201, 202
PLSC 200
PSYC 100, 121

World Languages and Cultures

ANTH 110
ETHN 351
GEOG 110
PLSC 110
SOCI 100

Foreign Language: 9 units in one
foreign language

**California State University,
Sacramento**

Anthropology

ANTH 110
BIOL 125

Geography

GEOG 100, 110

Government

PLSC 200

Psychology

PSYC 100
PSYC 105
Two of the following PSYC 201,
300, 410
PSYC 410

Social Science

ECON 100
HIST 201, 202
PLSC 200

One of the following:

ANTH 110 (Anthropology 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

Afro-American Studies B.A.

HIST 242

Anthropology B.A.

ANTH 110
MATH 200

Behavioral Science B.A.

ANTH 110
MATH 200
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

Child Development B.A.

ENGL 100
ENGL 110 or 165
MATH 200
PSYC 100, 200, 201

Geography B.A.

GEOG 100, 110
MATH 200

*Geography B.A.: Cartography
Concentration*

CIS 250/251 or ENGR 111
GEOG 100, 110
MATH 200, 251, 252, 253

*Political Science B.A.: Public
Administration Concentration*

ECON 100
PLSC 100, 110, 200

*Political Science B.A.: Public
Policy Concentration*

ECON 102
PLSC 100, 110, 200
MATH 200

Psychology B.A.

BIOL 250
MATH 200 or PSYC 121
PSYC 100

Public Relations B.S.

ECON 100
JOUR 110, 120
PSYC 100

Recreation B.A.

PSYC 100
SOCI 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 Science B.A.: Teaching
Concentration*

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.

ANTH 110
ENGL 100
ENGL 110 or 165
MATH 200
SOSC 111
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
GEOG 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
MATH 200
PLSC 130
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 I – quantitative score of 400 or above (test taken prior to May 1995); score of 440 (test taken during or after May 1995);
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
Accounting 121
Business 115
Computer and Information Science 240, 250, 252, 290, 304
Chemistry 192
Earth Systems 140
Economics 123
Electronics Technology 230 or both 231 and 232
Plumbing 702, 742
Psychology 121
Real Estate 131

2. English

This competency requirement may be satisfied by:

- a. Completion of English 100 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 or 825 (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 Political Science 200: National, State and Local Government (5 units), or
- 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)

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)

Note: 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.

2. Language and Rationality

a. English, Literature, Speech Communication

Two courses (3 units each) are required. One of these shall be a composition course selected from English 100, 400, 800, or 825; the other shall be selected from the following list:

English: 100*, 110*, 120*, 130*, 140*, 161, 162, 163, 164, 165*, 195, 210*, 400* (for non-native speakers), 680, 690

Literature: 101*, 105*, 111*, 113*, 115*, 143*, 151*, 201*, 202*, 231*, 232*, 240*, 251*, 265*, 271*, 272*, 273*, 430*, 680, 690

Speech Communication: 100*, 111, 112, 120*, 140*, 150, 170, 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

Computer and Information Science:

110, 115/116, 240/241, 250/251, 290/291

Economics: 123

Math: 125, 130, 200, 222, 241, 251

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, 101, 192, 210, 220, 224,

225, 231, 232, 250, 410, 420

Earth Systems 100, 150

Electronics Technology 100, 110

Geography 100

Geology 100, 101, 125, 210

Humanities 127-128*

Manufacturing and Industrial Technology 100

Meteorology 100, 101

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, 195, 200, 210,

220, 230, 240, 250, 260, 265, 266, 666, 675

Consumer Arts and Science 310

Horticulture 311, 312, 320, 340

Majors fulfilling Area a.: Chemistry, Dental Assisting, Geological Sciences, Horticulture, Life Sciences, Physical Science, Physics.

b. Social Science (at least 3 units)

Anthropology 105, 110, 120, 180, 350, 360,

370

Broadcast and Electronic Media 110, 112

Business 100, 101, 102

Economics 100, 102

Ethnic Studies 101, 102, 150, 151, 152,

160, 261, 262, 290, 300, 425, 430, 440

Geography 110

History 100, 101, 102, 103, 110, 201, 202,

242, 260, 270, 310, 315, 350, 360, 425

Human Services 100, 115, 120

Political Science 100, 110, 130, 150, 170,

200, 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, 310, 313

Sociology 100, 105, 110, 141, 200, 300,

340, 391

Majors fulfilling Area b.: Ethnic Studies, Social Science.

c. Humanities (at least 3 units)

Arabic 111, 112

Architecture 100

Art 100, 101, 102, 103, 105, 141, 349, 350

Chinese 111, 112, 121, 122, 131, 132, 134

English 110, 120, 130, 140

Ethnic Studies 288, 350, 351, 585

Film 100, 101, 102, 103, 104, 105, 106,

110, 120, 121, 200

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, 114, 125,

127, 128, 131, 133, 136, 140, 675, 676

Italian 110, 111, 112, 115, 116, 117, 118,

120

Japanese 110, 111, 112, 120, 121, 122

Literature 101, 105, 111, 113, 115, 143, 151, 153, 201, 202, 231, 232, 240, 251, 430
 Music 100, 202, 240, 250, 275
 Philosophy 100, 160, 175, 244, 300, 320, 350
 Spanish 110, 111, 112, 115, 116, 117, 118, 120, 121, 122, 130, 131, 132, 140, 161, 162, 251
 Speech Communication 111, 112
Majors fulfilling Area c.: Art, English, Film History, French, German, Humanities, Music, Spanish, Speech.

d. Career Exploration and Self Development (at least 3 units)

Administration of Justice 100
 Adapted 150
 Aeronautics 130
 Architecture 666
 Biology 666
 Broadcast and Electronic Media 110, 250
 Building Inspection Technology 700
 Business 201
 Business DOS or Windows Applications series
 Career and Life Planning 101, 102, 103, 112, 133, 137, 138, 140, 141, 142, 401, 402, 404, 406, 410, 430
 Computer and Information Science 110
 Cooperative Education 641, 645, 650
 Culinary Apprenticeship 701
 Drafting Technology 120
 Education 100, 101
 Electrical Apprenticeship 701
 Engineering 666
 Film 461
 Fire Technology 715
 Hazardous Materials Apprenticeship 701
 Horticulture 411
 Human Services 100
 Journalism 110
 Lithographer Apprenticeship 701
 Machine Tool Technology 750
 Management 100
 Medical Assisting 100
 Military Science 1a
 Multimedia 110
 Nursing 666
 Paramedic Apprenticeship 701
 Plumbing 701 or 741
 Real Estate 100
 Social Science 301
 Sprinkler Fitter Apprenticeship 701
 Speech Communication 100, 120, 140, 150
 Technical Art/Graphics 130, 131, 140, 141
 Welding Technology 300

Majors fulfilling Area d.: Accounting, Administration of Justice, Aeronautics, Alcohol and Other Drug Studies, Architecture, Broadcast and Electronic Media,

Building Inspection Technology, Business, Business Information Processing, Computer & Information Science, Cosmetology, Culinary Services, Drafting Technology, Electrical Technology, Electronics Technology, Engineering, Film-making, Fire Sprinkler Technology, Fire Technology, Graphic Communications, Hazardous Materials Specialist, Human Services, Journalism, Life Sciences: Biotechnology, Management, Mathematics, Medical Assisting, Multimedia/Web Design, Nursing, Paramedic Apprenticeship, Plumbing and Pipe Fitting, Real Estate, Refrigeration and Air Conditioning Mechanics, Technical Art/Graphics, Welding Technology.

e. Electives

All courses not included in the major requirements or specified above in the General Education requirements are considered 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 offered in more than fifty occupational fields (see tabular listing on page 89) for students planning to prepare for gainful employment. All occupational programs are carefully developed by advisory committees composed of college staff and selected representatives from the business and industrial community.

These programs are designed to develop personal and technical competencies necessary for successful employment and job advancement.

Two-Year Occupational Programs – AA or AS Degree

Most two-year programs lead to an Associate 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 programs 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 student 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 certificate must be taken at College of San Mateo.

Certificate requirements for an individual student are those listed in the College of San Mateo Catalog of the year in which the student begins studies at CSM. Those requirements may be followed throughout the student's course of study. However, if a break in attendance occurs before the certificate 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 Associate in Science degree from College of San Mateo. On the other hand, their objective may be to enter an occupational field after becoming qualified through one of numerous Associate 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 necessary 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	ELECTRICAL TECHNOLOGY	MANUFACTURING TECHNOLOGY
ADMINISTRATION OF JUSTICE	ELECTRONICS TECHNOLOGY	MARINE BIOLOGY
AERONAUTICS	Avionics Systems Maintenance	MASS COMMUNICATIONS
Aircraft Maintenance Technology	ENGINEERING	MATHEMATICS
Airframe & Power Plant Technology	ENGINEERING TECHNOLOGY	MEDICAL ASSISTING
AGRICULTURE	Electronics	Medical Billing Specialist
ALCOHOL AND OTHER DRUG STUDIES	General	Medical Transcription
ANIMAL SCIENCE	ENGLISH	METEOROLOGY
ANTHROPOLOGY	ENTOMOLOGY	MOLECULAR & CELL BIOLOGY
ARABIC	ENVIRONMENTAL STUDIES	MULTIMEDIA/WEB DESIGN
ARCHAEOLOGY	ETHNIC STUDIES	MUSIC
ARCHITECTURE	FILM	Electronic Music
Landscape Architecture	Film History	NURSING (Registered)
ART	Filmmaking	NUTRITION
Art History	FIRE SPRINKLER TECHNOLOGY	OCEANOGRAPHY
Commercial	FIRE TECHNOLOGY	OPTOMETRY
Commercial, Illustration	FORESTRY	(Pre-Optometry)
Fine Arts	FRENCH	PARAMEDIC APPRENTICESHIP
Drawing	GENETICS	PHARMACOLOGY (Pre-Pharmacy)
General Studio Art	GEOGRAPHY	PHILOSOPHY
Painting	GEOLOGICAL SCIENCES	PHYSICAL EDUCATION
Printmaking	GERMAN	PHYSICAL SCIENCE
Photography	GRAPHIC COMMUNICATIONS: PREPRESS	PHYSICS
ASTROPHYSICS	GRAPHIC COMMUNICATIONS: PRESS	PHYSIOLOGY
BACTERIOLOGY	HAZARDOUS MATERIALS SPECIALIST	PLUMBING & PIPE FITTING
BIOCHEMISTRY	HEALTH SCIENCE	POLITICAL ECONOMY
BIOLOGICAL SCIENCES	HISTORY	POLITICAL SCIENCE
BIOTECHNOLOGY	HORTICULTURE	PSYCHOLOGY
BOTANY	Environmental	PUBLIC HEALTH
BROADCAST AND ELECTRONIC MEDIA	Landscape/Construction Design	PUBLIC ADMINISTRATION
BUILDING INSPECTION TECHNOLOGY	Landscape Management	REAL ESTATE
BUSINESS	Nursery Management	Escrow
Business Administration	Floristry	RECREATION EDUCATION
Business Information Processing	HUMANITIES	REFRIGERATION & AIR CONDITIONING MECHANICS
Merchandising	HUMAN SERVICES	RELIGIOUS STUDIES
CHEMISTRY	INDUSTRIAL TECHNOLOGY	RHETORIC & COMMUNICATION
CHINESE	INTERNATIONAL RELATIONS	SOCIAL SCIENCE
CHIROPRACTIC MEDICINE	ITALIAN	SOCIAL WELFARE
COMPUTER & INFORMATION SCIENCE	JAPANESE	SOCIOLOGY
Computer Support Specialist	JOURNALISM	SPANISH
CONSERVATION & NATURAL RESOURCE STUDIES	LAW (Pre-Legal)	SPEECH COMMUNICATION
CONSTRUCTION MANAGEMENT	LIBERAL STUDIES	TECHNICAL ART/GRAPHICS
COSMETOLOGY	LIFE SCIENCES	Industrial Design
CRIMINAL JUSTICE	Biological	VETERINARY MEDICINE
CULINARY SERVICES	Biotechnology	WELDING TECHNOLOGY
DENTAL ASSISTING	General	Welding Technician
DENTISTRY (Pre-Dental)	Medical	General Welder
DIETETICS	Pre-Nursing	WILDLIFE & RANGE MANAGEMENT
DRAFTING TECHNOLOGY	MANAGEMENT	WOMEN'S STUDIES
Computer Aided Drafting	Business Management	ZOOLOGY
ECONOMICS	Marketing Management	
EDUCATION	Small Business Management	

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: use of microcomputers, including spreadsheet and word processing applications; basic math and English skills.

Career Opportunities: Accounting, one of the fastest growing professions, offers an interesting and rewarding career to people who can focus on details, use a computer, and work as part of a team. Both the A.A. degree and the certificate provide students with the training needed to begin their career in accounting. As students demonstrate their skills on the job, they can advance to higher positions such as accounting supervisor and accounting manager. With trained personnel in high demand, salaries and advancement opportunities are becoming even more attractive.

Many graduates continue their education and receive a Bachelor's degree in accounting or business administration. Students who earn a Bachelor's degree can have a career as a certified public accountant (CPA), internal auditor, cost accountant, financial analyst, personal financial planner, or tax accountant.

Major requirements: ACTG 103, 121, 131, 142; BUSW 415 plus one of the following courses: BUSW 204, 214, 383, 416; plus 6.0 units selected from the suggested electives. Total: 22.5 semester units.

Suggested electives: ACTG 100, 171; BUS. 100, 101, 115, 201, 295, 401; ECON 100, 102.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

Transfer Program

Many of the higher paying career opportunities in accounting require a B.A. or advanced degree. Students can fulfill lower division requirements at College of San Mateo. See the Transfer Planning and Major 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

Career Opportunities: The criminal justice field offers employment in over 581 municipal, county, and state law enforcement agencies in California alone to individuals who have the ability to work well with all types of people, observe details others might miss, and make sound decisions in times of crisis. The Administration of Justice program at CSM is designed to give students the finest training and experience available. Through the expertise of the faculty and the exposure to professional law enforcement and corrections personnel, students can expect to be trained in traditional police science, crisis intervention, reserve officer training, special weapons, and probations/corrections.

Administration of Justice majors choose from a wide arena of career options which include accident investigator, adjudicator/judge, animal control officer, arson investigator, bar examiner, border patrol agent/INS officer, correctional counselor, criminal investigator, customs agent, dispatcher, drug enforcement agent, evidence technologist, forensic scientist, FBI agent, fingerprint classifier, park or forest ranger, police or highway patrol officer, insurance investigator, jailer, matron, operations supervisor, police clerk, polygraph operator, postal inspector, prison warden, private detective, probation or parole officer, public or industrial security officer, security specialist, sheriff, state trooper, and traffic officer.

Some graduates use Administration of Justice as a base for careers in the legal field as

legal secretaries, paralegals, attorneys, district attorneys, prosecutors, and public defenders. While some of these careers require B.A. or advanced degrees, law enforcement is considered essential and is likely to continue to receive high priority in city, state, and federal budget planning; therefore the employment outlook for careers in this field is very good. As the need for qualified professionals continues to increase, so do salaries and career opportunities.

A.S. Degree

Option 1

Major requirements: ADMJ 100, 102, 104, 106, 108, 710; ENGL 800 or 825 or higher level English; 3 units selected from the suggested electives. Total: 24 semester units.

Suggested electives: ADMJ 120, 153 or SOCI 105 are highly recommended; BUSW 114 and 115. POST certified classes* (see POST certification) may also be used.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Option 2

Major Requirements: ADMJ 100, 102, 108; ENGL 800 or 825 or higher level English; 3 units selected from the suggested electives; 9 units of POST training (must be approved by Administration of Justice Department). Total: 24 semester units.

Suggested Electives: ADMJ 120, 153 or SOCI 105 are highly recommended; BUSW 114, 115. POST certified classes* (see POST certification) may also be used.

*Note: POST classes/certificate may be used provided that the training was offered under the auspices of an accredited college.

Transfer Program

Many career opportunities in Administration of Justice require a B.A. or advanced degree. Students can fulfill lower division General Education and major requirements at College of San Mateo. 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, 105, 106, 108, 153, 710, 715 with a grade of C or higher in each course. Total: 25.5 semester units.

Basic Police Academy

This 800 hour course of training is certified by the California Commission on Peace Officers Standards and Training to meet the statutory basic training requirements.

Certificate requirements: ADMJ 145 with a grade of C or higher. Total: 20 units.

POST (California Commission on Peace Officers Standards and Training) Certification

Peace Officers Standards and Training (POST) certification is a significant aspect of the Administration of Justice program. Job opportunities within the law enforcement field require certification by POST of a candidate's work preparation. Reserve officers are hired by local law enforcement agencies only after completing a POST-certified program such as that offered by College of San Mateo.

For regular police officer positions, in the event that a job applicant has not completed POST-mandated and certificated training, the hiring agency might choose to hire the individual and then pay for his/her training. It is more often the case that the agency will seek out candidates who have completed training in a POST-certified program. College of San Mateo's Administration of Justice program is oriented to comply directly with POST certification standards, placing our program graduates in an advantageous position when applying for jobs in the law enforcement field.

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 Reserve Officer Certification

Courses:

- 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

Career Opportunities: Many graduates in this field are employed in the aircraft and aircraft parts industry. Some work for Federal Government agencies, such as NASA

and the Department of Defense. Students who complete courses and obtain a Federal Aviation Certificate and an A.S. degree in Airframe and Powerplant Technology have excellent opportunities for steady employment with airlines, as well as other aircraft operations.

Transfer Program

Transfer programs are available for four-year degree curricula at San Jose and San Francisco State Universities, as well as 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: Aircraft and Powerplant Technology offers opportunities for individuals who have the ability to diagnose mechanical problems, work with their hands, work independently, and handle crucial responsibility to become aircraft mechanics. The program offered at CSM is designed to provide students with the finest training and experience available. Through the expertise of the faculty and exposure to theory and techniques for maintaining the airframe and powerplant of an aircraft, students will be eligible to take the FAA licensing exam upon completion of their coursework.

Chances for immediate hire as an aircraft mechanic are enhanced for students who have completed CSM's carefully designed program, and opportunities for advancement with this College's training are more rapid. Experts predict that there will be more new jobs created in aviation than in most other career fields. Graduates of CSM's Aircraft Maintenance Technology program can expect to find the majority of available jobs at metropolitan airports.

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; 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; 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 Certificate 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 2.0 G.P.A. and be enrolled at the College at the time of application.

Career opportunities: Career opportunities in Aircraft Maintenance include work on aircraft as an airframe or powerplant mechanic or as a supervisor of maintenance operations in airport maintenance facilities.

Major requirements: 18 units selected from the following courses: BUSW 105 or 214; CIS 110; DRAF 120; ELEC 110 or 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)

Alcohol and Other Drug Studies

Associate in Arts Degree with a major in Alcohol and Other Drug Studies; Transfer Program; Certificate Program

Career opportunities: The Alcohol and Other Drug Studies program prepares students to work with the alcohol and other drug dependent population, and the family and employer of the chemically dependent person. The program addresses community needs for trained alcohol and other drug prevention specialists to work and volunteer in both public and private agencies in the Bay Area.

Career opportunities in this field include Primary Addiction Counselor/Supervisor, Case Manager, Program Director, Prevention Educator, Mental Health Dual Diagnosis Counselor, Crisis Intervention Specialist, Incarceration Counselor, and Assessment/Placement Specialist. Other opportunities include working with adolescents, seniors, multicultural populations, and those who have been affected by HIV/AIDS.

Persons who are awarded the certificate may be employed by in-patient and out-patient treatment clinics, transitional housing centers, mental health clinics, job training/placement programs, shelters for various homeless populations, detoxification units, crisis intervention centers, incarceration facilities, and education/prevention programs in the schools and community.

Major requirements: SOSC 301, 302, 303, 304, 307, 308, 315, 316; 6 units selected from PSYC 100, 410 or SOCI 100; 6 units selected from SOSC 310, 313, or other SOSC courses approved by Division Dean, with a grade of C or higher in each course. Total: 36 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.

Anthropology

(Also see Social Sciences)

Career opportunities: In addition to careers in cultural, physical and medical anthropology, students majoring in Anthropology have opportunities in archeology, cultural resource management, environmental impact analysis, ethnic relations, ethnology, exhibit design, expeditions, film ethnography, health research, linguistics, museum curatorship, population analysis, public information, recreation, redevelopment, social gerontology, social services consultation, transcultural nursing, travel consultation, and urban planning.

Transfer Program

Most career opportunities in anthropology require a B.A. or advanced degree. Students can fulfill lower division General Education and major requirements at College of San Mateo. 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.

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.

Arabic

Career opportunities: In addition to providing skills in understanding, speaking, reading, and writing Arabic, the major provides a greater understanding of Arabic culture and civilization and prepares students

for greater international and domestic career opportunities. Given the multi-national nature of the business world today, fluency in a foreign language, such as Arabic, increases an individual's marketability and value in the areas of banking, consular and junior foreign service, education, import/export business, international business, international relations, medicine, nursing, overseas employment, police work, social security, translating/interpreting services, and social services. Specific career opportunities include attache, diplomatic officer, immigration inspector, journalist, teacher/professor, and travel agent.

Transfer Program

Many career opportunities in Arabic and other foreign languages require a B.A. or advanced degree. Students can fulfill lower division General Education and major requirements at College of San Mateo. 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.

Archaeology

(See Anthropology courses.)

Architecture

Associate in Science Degree with a major in Architecture; Transfer Program

Career opportunities: Most architecture majors, after completing their studies and obtaining their Professional Degree, will choose to obtain their license to practice architecture and go into private practice as owners of their own firm. As practitioners, they will service a wide variety of clientele: private, business, institutional, and governmental. Others may elect to find employment in existing architectural firms, as members of their teams, in the design and development of the built environment. Some may elect to do advance work in fields such as art, historic restoration, product development, government, politics, business administration, law, education, medicine, research, land development, the military, etc. Others find opportunities in related fields that utilize the technical and problem-solving skills obtained from their architectural education.

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

Most career opportunities in architecture require a B.A. or advanced degree and professional licensing. Students can fulfill lower division General Education and major requirements at College of San Mateo. 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

Career opportunities: Art majors find employment in a variety of fields, which include advertising, manufacturing, industrial design, public relations, and communications. Experienced artists frequently specialize in a particular product or field such as fashion, industrial art, advertising, or story illustration. Career opportunities include advertising manager, antique dealer, architect, art administrator, art therapist, art critic, art dealer, art historian, cartoonist, ceramicist, commercial ceramicist, community artist, computer artist, computer graphics illustrator, computer publisher, design consultant, curator, display designer/manager, fashion/ floral/interior designer, educator,

gallery director, graphic artist, illustrator, jewelry designer, layout artist, muralist, museum technician, painter, photographer, police artist, printmaker, set designer, sculptor, and visual information specialist.

Transfer Program

Many career opportunities in art require a B.A. or advanced degree. Students can fulfill lower division General Education and major requirements at College of San Mateo. 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 History

Career opportunities: Individuals interested in careers in the art history field may obtain an A.A. in Liberal Arts, which trains them in observation, analysis and communication, the basis for many careers in both the business and government sectors.

Many graduates continue their education at a university, majoring in Art History. Career opportunities for those with a B.A. or advanced degree include work with museums as curators or archivists; with galleries; in publishing as art editors or critics; art appraisal; art consulting; historical preservation; conservation; and education, teaching at the college or high school levels.

Transfer Program

Most career opportunities in Art History require a B.A. or advanced degree. Students can fulfill lower division General Education and major requirements at College of San Mateo. 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.

Recommended courses: ART 101, 102, 103, 105, 201, 301; HIST 100, 101; French, German, or Italian language courses.

Suggested electives: ANTH 110; ART 214, 349, 350; ENGL 165, 195; HIST 102; HUM. 101, 102, 111, 112, 127, 128; LIT. 101, 105, 113, 430.

Art: Commercial

Associate in Arts Degree with a major in Commercial Art

Career opportunities: Commercial artists are trained in design, materials, advertising production, commercial drawing, lettering, cartooning, figure and composition, fashion

illustration, and photography. Commercial artists are employed in advertising agencies, art studios, corporate communications departments, textile manufacturers, fashion designers, architects, publishing companies, printing firms, large retail stores, supermarkets, mail order houses, promotion departments for motion picture and television studios, and with the military. In addition, many commercial artists are self-employed.

Recommended high school preparation: design, drawing, painting.

A.A. Degree

Major requirements: ART 201, 202, 206, 207, 214, 301, 328; TA&G 101. Total: 23 semester units.

Suggested electives: ART 101, 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: The Commercial Illustration field offers career opportunities in advertising, manufacturing, industrial design, public relations, and communications. Experienced artists frequently specialize in a particular product or field such as fashion, industrial art, advertising, or story illustration.

Transfer Program

Many higher paying career opportunities in Commercial and Illustration Art require a B.A. or advanced degree. Students can fulfill lower division General Education and major requirements at College of San Mateo. 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.

Career opportunities: The A.A. degree in Fine Arts provides the student with both a historical and contemporary perspective on the creation of art, the ability to analyze and understand compositional structure and historical significance, and hands-on skills working in a variety of media.

A.A. Degree

Major Requirements (for all options): ART 101 or 102, 103, 201, 202, 206, 207, 214, 301.

Option 1: Drawing

Career opportunities: An emphasis in Drawing prepares the student to express emotions, ideas and visions through representation of lines on a surface utilizing media such as pen and ink, pencil, charcoal, pastel, and brush.

Major requirements: as listed above plus a repeat of ART 206 and 207; ART 223. Total: 33 semester units.

Suggested electives: ART 224, 241, 328, 351, 405.

Option 2: General Studio Art

Career opportunities: An emphasis in General Studio Art prepares the student to function as a creative artist utilizing traditional fine arts (drawing, painting, sculpture) and modern media (ceramics, textiles, intermedia, photography). The General Studio Art major leads individuals to careers as artists, elementary school through graduate level educators, commercial artists, art critics, museum curators, restorers/conservators, graphic designers, art editors, art agents, and art administrators.

Major requirements: as listed above plus ART 223, 241, 405. Total: 33 semester units.

Suggested electives: ART 321, 351.

Option 3: Painting

Career opportunities: An emphasis in Painting prepares the student to express emotions, ideas, and visions through application of paints and related chemical color substances to canvas and other surfaces. This field offers career opportunities in painting, muraling, jewelry design, color consulting, art education and art therapy. Some of these careers require a B.A. or advanced degree.

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

Career opportunities: An emphasis in Printmaking prepares the student to render art concepts on surfaces and transfer images, via ink or dyes, to paper or fabric.

Career opportunities exist in specialties such as intaglio, relief, lithography, serigraphy, and photo-mechanical printmaking. Some printmakers work in book arts and paper-making.

Major requirements: as listed above plus ART 241, 242. Total: 30 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

Many career opportunities in Fine Arts require a B.A. or advanced degree. Students can fulfill lower division General Education and major requirements at College of San Mateo. 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

Career opportunities: The field of photography offers a variety of commercial, educational, informational, scientific, technical, and fine art opportunities to the skilled individual who is interested in communicating ideas and concepts visually. Photographers find careers with newspapers, magazines, photo agencies, industrial companies, and medical facilities. Most commercial and portrait photographers are independent entrepreneurs. Many graduates find employment as sales representatives for photo-related corporations, while others work as sales representatives for other photographers. The rapid development and assimilation of electronic media has opened the door to a variety of additional career opportunities, such as creating or preparing an image for reproduction through computer technology.

Major requirements: ART 349, 350, 351, 352, 354, 360, 365, 353 or 355. Total: 25 semester units.

Suggested electives: ART 101, 201, 214, 237, 301; FILM 461; TA&G 170.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

Biological Sciences

(See Life Sciences: Biological)

Biotechnology

(See Life Sciences: Biotechnology)

Broadcast and Electronic Media

Associate in Arts Degree with a major in Broadcast and Electronic Media; Transfer Program; Certificate Program.

Career opportunities: The Broadcast and Electronic Media field offers a variety of career opportunities in electronic communications for creative individuals with solid communications skills. CSM's program provides a comprehensive view of the communications disciplines, is tailored to meet current needs in the broadcasting media, and is well respected in the industry.

Through actual on-air broadcasts from the campus stations, KCSM-FM and KCSM-TV, and cablecasts from SAMNET, students receive both theoretical and practical, hands-on experience that provides excellent preparation for immediate employment or for transfer to a four-year program.

The broadcasting field offers students an exciting environment in television and radio with career opportunities in broadcast operations, engineering, writing and performance; media analysis; and instructional media. Additional opportunities include non-broadcast production areas such as music media production, music videos, corporate videos, video news features, and cablecasting. Other positions this training can qualify a student for include traffic, marketing, and programming.

Radio Broadcasting offers both on-air and behind-the-scenes career opportunities with radio stations, audio production facilities, educational institutions, and media departments. Among career opportunities in this field, the best known is perhaps the radio announcer, or "disc jockey." Announcers select and introduce recorded music; present news, sports, weather, and commercial announcements; interview guests; and report on community activities and other matters of interest to their audience. While announcers may ad-lib much of their material, they also do much of the research and writing for scripted news and commercial copy. In addition, announcers may operate the control

board and sell commercial time to advertisers. Other career opportunities for Radio Broadcasting Operations graduates are as sound engineers, dispatchers, broadcast technicians, business service salespeople, and telecommunications analysts.

Television Broadcasting offers career opportunities in broadcast production with television stations, educational institutions, media departments, cable companies, satellite communications facilities, interactive video production companies, and telecommunications companies. This field of study provides students with training for positions which include camera operator, cinematographer, editor, engineering technician, instructional media specialist, lighting director, production director, production assistant, sound engineer, technical director, and videographer.

A.A. Degree

Major requirements: BCST 110, 131, 132, 194, 231, 232 plus 6 units selected from BCST 100, 112, 120, 242, 244 or 250; or MUS. 275; or BUS. 101 or 180 or MGMT 100 (maximum of 3 units); or ELEC 110; or JOUR 120. Total: 25 semester units.

Transfer Program

Many higher paying career opportunities in Broadcast and Electronic Media require a B.A. or advanced degree. Students can fulfill lower division General Education and major requirements at College of San Mateo. 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: 25 semester units.

Building Inspection Technology

Associate in Science Degree with a major in Building Inspection; Certificate Program

Career opportunities: A career in Building Inspection includes review and interpretation of plans and diagrams for compliance with codes and ordinances; inspection of new and existing residential, commercial, and industrial buildings during and after

construction to enforce and certify them for safety and code compliance; assurance of structural integrity and plumbing, electrical, and mechanical systems in the sale and exchange of property; work with architects, engineers, contractors, and property owners to ensure proper use of materials and workmanship; review and approval of final inspection certificates; issuance of permits and assessment/collection of fees; and maintenance of reports on all inspections conducted and permits issued. Some students specialize in areas such as residential dwellings, and structural steel or reinforced concrete buildings.

Career opportunities in Building Inspection include employment with the building departments of local, state and federal government. Local governments employ large inspection staffs, as do state and federal departments such as Defense, Housing and Urban Development, and Agriculture. Other graduates work for firms in engineering and architectural services, construction, and business services industries. Most opportunities for building inspectors are concentrated in cities and suburban areas undergoing rapid growth. The number of new career opportunities will be largely determined by the level of new housing and commercial building activity and the increasing complexity of construction requirements.

A.S. Degree

Major requirements: BLDG 700, 710, 720, 730, 740, 750, 760; 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 725, 775, 790; COOP 641; 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

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 cho-

sen 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: Career opportunities available to Business Information Processing graduates include employment in both entry-level positions and mid-level office management. Other areas of career opportunities include sales, marketing, public relations, and human resources.

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: Microcomputer/Word Processing

Career opportunities: Among career opportunities for those skilled in microcomputer word processing are administrative staff assistant, executive secretary, senior secretary, secretary supervisor, and secretarial services entrepreneur.

Major requirements: BUS. 100, 115, 326, 401; BUSD 114, 502; BUSD or BUSW 530; BUSW 105, 114; 3 units selected from BUSW 204-205 or BUSW 214-215; 1.5 units selected from BUSW 313, 323, 383 or 384; 1.5 units selected from BUSW 405 or 415; 1.5 units selected from BUSW 204 or 214. Total: 25.5 semester units.

Option 2: Microcomputer/Data Base and Spreadsheet Functions

Career opportunities: Among career opportunities for those skilled in microcomputer database and spreadsheet functions are technical support specialist, PC applications support specialist, PC telephone customer service representative, computer support aide, and consultant/trainer.

Major requirements: ACTG 100, 142; BUS. 100, 115; BUSD 114, 502, 530; BUSD 115 or BUSW 114; BUSW 105, 464; 1.5 units selected from BUSW 204 or 214; 3 units selected from BUSW 405-406 or 415-416. Total: 27.0 semester units.

Option 3: Microcomputer/Network Administration

Career opportunities: Among career opportunities for those skilled in microcomputer local area network administration are network administrator, network support specialist, software installer, and end-user support specialist.

Major requirements: BUS. 100, 115, 401; BUSD 114, 502, 512; BUSW 114, 214, 530, 680 (Introduction to Website Administration); CIS 474. Total: 24 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: Merchandising (General)

Career opportunities: Opportunities are available to qualified individuals in the general areas of wholesaling, retailing, and certain areas of manufacturing in the domestic and international markets. Specific careers include selling, buying, customer service, and product promotion. Careers in distribution are growing in availability at a healthy rate. Over one fourth of the civilian labor force is engaged in merchandising/marketing-related activities.

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

Career opportunities: Opportunities are available to qualified individuals in the general areas of wholesaling, retailing, and certain areas of manufacturing in the domestic and international markets.

Merchandising management careers are available in selling, buying, customer service, and product promotion.

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.

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.

Career opportunities: Career opportunities for Business Administration majors are diverse and many. The major prepares students for careers in business disciplines which include sales, marketing, public relations, and human resources. Many graduates find employment within the manufacturing industries: automotive, aerospace, commercial; investment banking; consulting services; retailing; and communications. Others secure employment in federal, state, or local government agencies. Still others work for private foundations and professional organizations. With a B.A. or advanced degree, career opportunities extend to include budget analyst, accountant, controller, financial analyst, financial planner, loan officer, marketing analyst, production manager, and securities analyst.

A.A. Degree/Transfer Program

Career opportunities: Accountant, administrative assistant, budget analyst, budget consultant, claims agent, controller, credit analyst, financial manager, hospital administrator, insurance agent, lawyer, and trust officer are some of the careers for which this option helps prepare the student. Additional fields for which this option helps prepare the student are advertising/marketing, banking, business publications, and computer operations.

Major requirements: ACTG 121; ECON 100, 102; ECON 123 or MATH 200 or higher level math course; 6-10 units selected from ACTG 131; BUS. 100, 201, 295; CIS

240/241; or MATH 125, 241, 251. Total: 21-26 semester units.

Transfer Program

Many higher paying career opportunities in Business Administration require a B.A. or advanced degree. Students can fulfill lower division General Education and major requirements at College of San Mateo. 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.

Associate in Arts Degree with a major in Business Administration

Career opportunities: Administrative assistant, bookkeeper, buyer, employment interviewer, and sales agent are some of the careers for which this option helps prepare the student.

Major requirements: ACTG 100 or 121; BUS. 100, 101, 115, 201, 401; BUS. 295 or CIS 110; and 3 units selected from BUSD or BUSW series. Total: 24-27 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).

Chemistry

Associate in Science Degree with a major in Chemistry and Transfer Program

Career opportunities: The Chemistry major prepares students to transfer to four-year institutions for continued study in the field of chemistry. While an A.S. degree may be sufficient for an individual to secure employment as an environmental technician, laboratory technician, safety manager, sanitarian, or water-quality analyst, most careers in the field require a B.S. or advanced degree. Analytical chemist, biochemist, biotechnologist, dentist, educator, forensic specialist, environmental/industrial health engineer, pharmacist, physician, research chemist, and veterinarian are some of the careers for which an Associate degree in Chemistry prepares a student who subsequently obtains a university degree in the field. Approximately two-thirds of all chemists work for manufacturing firms. Chemists are also employed with federal, state and local governments, such as the departments of Defense, Health and Human Resources, and Agriculture. Some chemists

work for research organizations and educational institutions.

Major requirements: CHEM 210, 220, 231, 232, 250; PHYS 210/211 or 250. Total: 28-29 semester units.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Transfer Program

Most career opportunities in chemistry require a B.A. or advanced degree. Students can fulfill lower division General Education and major requirements at College of San Mateo. 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

Chinese

Career opportunities: In addition to providing skills in understanding, speaking, reading, and writing Chinese, the major provides a greater understanding of Chinese culture and civilization and prepares students for greater international and domestic career opportunities. Given the multinational nature of the business world today, fluency in a foreign language, such as Chinese, increases an individual's marketability and value in the areas of banking, consular and junior foreign service, education, import/export business, international business, international relations, medicine, nursing, overseas employment, police work, social security, translating/interpreting services, and social services. Specific career opportunities include attache, buyer, diplomatic officer, immigration inspector, interpreter, journalist, teacher/professor, and tutor.

Transfer Program

Many career opportunities in Chinese and other foreign languages require a B.A. or advanced degree. Students can fulfill lower division General Education and major requirements at College of San Mateo. 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

Career opportunities: Computer and Information Science offers extraordinary career opportunities to individuals who possess fluency in the English language, solid keyboarding skills, and a desire to work with computers on a daily basis. Students in the Computer and Information Science program at CSM are trained primarily on PC microcomputers and receive the finest training and experience available in areas such as programming, data communications, applications development, network support, end-user support, and hardware/systems support. This training is intended to lead to employment in the computing industry or transfer to a baccalaureate institution for continued study in the field and to provide advanced study for computing professionals.

Career opportunities include applied scientist, communications technician, computer maintenance technician, computer operator, data base specialist, documentation specialist, information specialist, Local Area Network (LAN) administrator, PC specialist, programmer, software engineer, software technician, systems analyst, systems test engineer, technician support representative, and as sales personnel skilled in marketing methods for computer systems. While some students secure employment following completion of the A.S. degree or Certificate program, many transfer to four-year universities to complete a Bachelor's degree in a computer-related field.

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).

A.S. Degree/Transfer Program

Many career opportunities in Computer and Information Science require a B.S. or advanced degree. Students can fulfill lower division General Education and major requirements at College of San Mateo. 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.

Major Requirements: CIS 250/251, 252/253, 290/291; 6 (or more) units selected from CIS courses numbered higher than 110; 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.

A.S. Degree/Certificate Program (Computer Support Specialist)

Career opportunities: The Computer Support Specialist program prepares CSM graduates to support microcomputer systems and end-users in business and industry. Students may choose to concentrate in network support, end-user support, applications development, or hardware support. Program emphasis is on cultivating computer professionals who are technically competent and work well with others.

Individuals in every occupation and profession benefit from the use of computers, and as a result of this, the computer support specialist is one of the fastest growing occupations in the United States. The San Francisco Bay Area is a mecca for computer hardware and software manufacturing, marketing, and service companies, and jobs are plentiful.

Major requirements (for all options): CIS 110, 115/116, 150; ENGL 100; MATH 120 or 122-123 or higher math class.

Option 1: Network Support

Career opportunities: Graduates in this specialization will find employment supporting network users and installing, configuring and managing moderate-sized homogeneous networks. Individuals with prior network experience can acquire more extensive technical education in networks through this program and prepare for industry network certification examinations. Career opportunities exist in numerous businesses and industries.

Major requirements: courses listed above; BUSD 114-115 and BUSW 114 OR CIS 315; CIS 250/251; ELEC 110, 215; 9 units selected from either BUSD 511 or CIS 154 (but not both), either BUSD 512 or CIS 155 (but not both), BUSD 504, BUSW 124-125, CIS 152, 153, 156, 157, 158, 452, 455, 458, 474, 476, 478, or ELEC 218. Total: 40-42.5 semester units.

Option 2: End-User Support

Career opportunities: Graduates in this specialization will find entry-level employment as end-user support specialists, help desk support specialists, computer librarians, information systems liaisons, and with computer operations staffs. Career opportunities exist in numerous businesses and industries.

Major requirements: courses listed above; BUSD 114-115 and BUSW 114 OR CIS 315; CIS 250/251, 252/253; ELEC 110, 215; 5 units selected from CIS 376, 378, CIS Macintosh Applications courses; BUSD DOS Applications courses; BUSW Windows Applications courses; or TA&G Applications courses. Total: 40-42.5 semester units.

Option 3: Applications Development

Career opportunities: Graduates in this specialization will find entry-level programming positions with companies of all sizes. Career opportunities exist in numerous businesses and industries. Typical entry-level positions include quality assurance and systems testing, and frequently involve working on project teams.

Major requirements: courses listed above; CIS 250/251, 252/253, 290/291; 8 units selected from CIS 180, 304/305, 308/309, 372/373, 374/375. Total: 38-39 semester units.

Option 4: PC Hardware and System Support

Career opportunities: Graduates in this specialization will find entry-level technician positions with companies of all sizes, install-

ing, configuring and supporting stand alone and networked systems. Career opportunities exist in numerous businesses and industries.

Major requirements: courses listed above; BUSD 114-115 and BUSW 114 OR CIS 315; ELEC 110, 215, 216, 217, 218, 310. Total: 39-41.5 semester units.

All requirements must be completed with a grade of C or higher in each course.

General interest in computers

For students who do not plan to major in CIS but wish to learn about computers, CIS 110 is recommended as a beginning course. Those who wish to learn some programming should begin with CIS 115/116.

Cooperative Education

Cooperative Work Experience Education enables students to earn college credit for work and learning done on his/her current job. The job may be major or career related or in a general field not especially related to a student's major. 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.

Now volunteer service in non-profit agencies, the public sector, or educational institutions may qualify for Cooperative Education credit. Sign up to put your volunteer service to work for you earning units that can apply to your CSM degree or transfer.

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.

Career opportunities: The Cosmetology program at CSM is designed to give students the finest training and experience available, and to prepare them for qualification to take the California State Board of Cosmetology examination for licensure as a

cosmetologist. Through the expertise of a talented faculty and exposure to professional cosmetologists and salon owners, students can learn hair design, hair coloring, hair analysis, skin care, nail care, and aesthetic enhancement of the body.

Skilled cosmetologists find employment with full-service and specialty salons. Licensed cosmetologists also have the freedom to work either full or part-time, and employment opportunities are available without regard to gender or age. The employment outlook for cosmetologists is good through the year 2000, with positions presently outnumbering applicants.

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: 48 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 total 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: 45 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, Nail Technology. 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 400 hours prepares a student to take the California State Board of Cosmetology Examination in Manicuring and for 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.

COSM 883, Fundamental Esthetics I, and 884, Fundamental Esthetics II. Completion of 600 hours prepares a student to take the California State Board of Cosmetology Examination in Skin Care and for subsequent employment in this field only.

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.

Career opportunities: The Culinary Services curriculum prepares individuals to provide food and beverage services in restaurants, bars, and other commercial establishments. Career specialties in the field include baker, pastry chef, bartender, chef, kitchen assistant, and restaurant operations manager. Chefs and dinner cooks find employment with restaurants, hotels, private clubs, luxury resorts, company/plant cafeterias, department stores, cruise lines, correctional facilities, school cafeterias, restaurants, catering services, hospitals, and convalescent homes. Some graduates work for shipping lines, al-

though foreign lines typically hire in the company of the ship's registry.

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

Career opportunities: The Dental Assisting program at CSM is designed to give students the finest training and experience. Through the expertise of a talented faculty and exposure to dental care professionals, a student is trained to prepare patients for treatment, assist the dentist working with patients, process x-rays, manage the office, and handle appointments and billing with computer applications. Graduates of CSM's program are eligible to take the National Certification Examination to become a certified dental assistant and the California Registration Examination to become a registered dental assistant.

Dental assistants find employment with private dentists in one of several specialty areas of practice, including oral surgery, endodontics, pedodontics, periodontics, and orthodontics. Dental assistants can also find employment with dental schools, the Armed Services, or community health centers. Employment opportunities for trained dental assistants continue to be excellent.

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; PSYC 108 or SOCI 100; SPCH 120; COOP 647 (4 units). Total: 35 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

Computer-Aided Drafting and Design

Associate in Science Degree with a major in Computer-Aided Drafting and Design (CAD/D); Transfer Program; Certificate Program

Recommended high school preparation: elementary algebra. 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 drafter interprets the engineer's ideas, presenting them in the language of manufacturing and construction. Recognized as one of the finest Drafting programs in the state, CSM's instructors have recent industry experience and classrooms are equipped with the latest equipment, including computer-aided drafting (CAD) stations. A graduate of CSM's Drafting Technology

program may select from several enviable opportunities. The graduate may immediately enter industry as a draftsman with the potential to become a designer or may opt to continue their education at a state university for a Bachelor's degree in Industrial Technology, becoming eligible for technical management positions.

The demand for CAD drafters has never been greater, and the number of engineering and manufacturing firms requiring CAD personnel is increasing.

A.S. Degree

Major requirements: DRAF 120, 121, 122, 123, 124, 130, 140, 150. Total: 24 semester units.

Suggested electives: ELEC 110; MANU 100; MTT. 200 or 750.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Transfer Program

Many career opportunities in Drafting Technology require a B.S. or advanced degree. Students can fulfill lower division General Education and major requirements at College of San Mateo. 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 ELEC 110; MTT 200 or 750; MANU 100 or PHYS 100 or 210, MANU 120; MATH 110* or 111/112*, with a grade of C or higher in each course. Total: 40-43 semester units.

*Math requirement may be met by completion of MATH 110 or 112 at one of the SMCCCD colleges OR demonstration of 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).

Computer-Aided Drafting (CAD/OP) Operator

Certificate Program

Career opportunities: Career opportunities in Drafting and Computer Aided Design (CAD) include a wide variety of work in research, manufacturing, and construction

as drafters, CAD operators, designers, and engineering supervisors.

The Certificate program in CAD is designed for educated/experienced engineers, architects, drafters, interior designers, illustrators, and technicians who wish to learn AutoCAD in place of manual drafting techniques to increase their proficiency and marketability.

Certificate Program

Certificate requirements: 3 units selected from: DRAF 120, 130, 140, 150, TA&G 125, COOP 641 or 645; 12 units selected from DRAF 121 or 100 (plus special project), 122, 123 or 124; 3 units selected from BUSD 114, 115; BUSW 105, 114, 115, 214, 215; CIS 115 or 116. Total: 18 semester units.

Earth Systems

Career opportunities: The Earth Systems Program will both provide students with skills to enter the field of Geographic Information Systems, a growing job market, and to transfer to four-year programs in environmental sciences, earth systems, and geographic information systems.

Required courses will include some currently offered mathematics, physics, chemistry, and biological sciences courses as well as new courses that are currently being developed in Spatial Analysis and Geographic Information; Remote Sensing Technology and Analysis; GPS, GIS and Image Processing

Economics

(also see Social Science)

Career opportunities: A major in Economics prepares the student to transfer to four-year institutions where they may complete baccalaureate degrees in Economics and other disciplines. Most careers in teaching, government, and large corporations deriving from the study of Economics require a graduate degree in the field, while a Bachelor's degree in Economics generally qualifies the student for the same types of employment available to those who hold general business or liberal arts degrees. In addition to a career as an economist, those who possess advanced degrees choose from careers such as accountants, attorneys, auditors, computer systems engineers, credit analysts, financial planners, statisticians, and treasurers. Other fields in which economists are employed include arbitration, budget analysis, business/market analysis, business/economic forecasting, commodities,

industrial relations, investment analysis, labor relations, manpower, transportation, international business, marketing, natural resources, and operations research.

Transfer Program

Most career opportunities in Economics require a B.A. or advanced degree. Students can fulfill lower division General Education and major requirements at College of San Mateo. 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.

Education

Career opportunities: The Education major prepares students to transfer to a baccalaureate institution to complete a Bachelor's degree and teaching credential, and subsequently for a Master's degree and perhaps Ph.D. for those who plan to teach at community colleges or four-year colleges/universities. Multiple subject teaching credentials allow individuals to teach in pre-school through sixth, and sometimes eighth, grades. Single subject teaching credentials allow the individual to teach a specific subject at the middle and high school levels. Students interested in the field of education can also work as teacher assistants or paraprofessionals, and may specialize in areas such as special or bilingual education, specializations also open to credentialed teachers. A background in Education is also excellent preparation for those interested in working in corporate training or as educators in churches, synagogues, and community agencies.

Transfer Program

Students planning a career in teaching at the elementary or secondary levels should concentrate on meeting the General Education requirements of the college to which they plan to transfer. The 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.

Most career opportunities in Education (excluding certificate programs in Early Childhood Education) require a B.A. or advanced degree. Students can fulfill lower division General Education and major requirements at College of San Mateo. See the Transfer Planning and Major Preparation Recommenda-

tions 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.

Career opportunities: Electrical technicians assist electronics engineers to develop, manufacture and service electronic systems and equipment. They troubleshoot, test, calibrate, and repair electronic components and circuit boards used in products such as computers, office machines, musical equipment and components, solar energy devices, and industrial and medical measuring and controlling devices. Employment opportunities exist in military, industrial and consumer markets. New career opportunities exist with cable television networks which utilize their own cable system or share a cable with another transmission company. Publications, such as newspapers and magazines, have also recently begun to require the services of electrical technicians.

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: ELEC 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

Career opportunities: The Electronics Technology program at CSM prepares a student for entry-level employment as an electronics technician and, with additional General Education coursework, for transfer to a baccalaureate institution. Entry-level employment opportunities exist in many segments of the electronics industry in the greater Bay Area. Companies involved with circuit design and fabrication; computer construction, installation, and repair; component manufacturing; high-technology transportation; aerospace systems; automated process control; and consumer electronics all offer program graduates opportunities for entry-level employment. Career opportunities in Electronics include work as an engineer, technician, or manager involved with design, manufacturing, sales, or service of a wide range of products. Electronics is one of the largest and fastest growing career fields in Northern California, with more significant growth expected over the next decade. Most Electronics majors specialize in a particular area, such as communications systems, computer/digital, microwave, medical, manufacturing, or precision instrumentation.

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. 315; BUSD 114, 115; BUSW 105, 114; CIS 150, 290/291; DRAF 120; ELEC 215, 346, 386; PHYS 100, 210, 220.

*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. 315; BUSD 114, 115; BUSW 105, 114; CIS 150, 290/291; DRAF 120; ELEC 215, 346, 386; PHYS 100, 210, or 220.

*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

Many high paying career opportunities in Electronics Technology require a B.S. or advanced degree. Students can fulfill lower division General Education and major requirements at College of San Mateo. 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

Career opportunities: The Avionics Systems Maintenance program prepares a stu-

dent for entry-level employment as a radio-electronics technician in the commercial passenger and/or freight airline industry. Career opportunities in Avionics include work as a line or bench mechanic or supervisor involved with the operation and maintenance of computer, communications, navigation, and control equipment used in commercial and civil aircraft. Upon completion of the program the student possesses the fundamental knowledge and skill to successfully pass the FCC General Radiotelephone License examination, as well as entry-level employment skill tests. Employment opportunities exist with the commercial passenger and freight airlines that service the greater Bay Area.

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

Career opportunities: Engineering is one of the largest professions in the United States, with over one million jobs in fields ranging from airplane design to pollution

control. The three largest branches of engineering are electrical, mechanical and civil. All branches of engineering place a heavy emphasis on problem solving and mathematics. Engineering education focuses on teaching scientific and engineering concepts and their application to the creative and effective solution of problems.

Career opportunities for those who hold a Bachelor's or advanced degree include engineering positions in aerospace, agricultural, architectural, biomedical, chemical, civil, computer, electrical, industrial, materials, mechanical, and nuclear fields. Most engineers work for manufacturing industries, while a smaller percentage work for federal, state and local government agencies or as private consultants. The remainder hold faculty positions at colleges and universities.

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 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

Career opportunities: Most Electronics majors secure employment with firms that manufacture electrical and electronic equipment, business machines, professional and scientific equipment, and aircraft/aircraft parts. Computer and data processing firms, engineering and business consulting firms, public utilities, and government agencies also hire electrical and electronics engineers. This major helps prepare graduates for positions as technicians engaged in research and development, manufacturing, testing, installing, and maintaining electronic equipment. After gaining experience and/or an advanced degree, graduates may advance to positions which include production supervisor, sales engineer, field engineer, and test engineer.

A.S. Degree

Major requirements: ELEC 201/202 or 220; ELEC 210, 260, 275, 302, 310, 320, 360, 362, 370; MATH 241, 242. Total: 37.5-39.5 semester units.

Suggested electives: ENGR 666; CIS 240/241, 250/251; MATH 200; BUS. 101.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Transfer Program

Many career opportunities in Electronics require a B.S. or advanced degree. Students can fulfill lower division General Education and major requirements at College of San Mateo. 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

Career opportunities: Engineering Technology is that part of the engineering field which blends scientific and engineering knowledge with technical skills in research, development and production. CSM offers the

General Education, mathematics, science, engineering, and many of the technical courses required to meet lower division requirements in Engineering Technology and prepare the student for transfer to a baccalaureate institution for a degree in Engineering Technology. The Associate degree alone prepares students for employment as engineering technicians, who work with or under the direction of engineers. Career opportunities exist largely with manufacturers of electrical and electronic equipment, aircraft/aircraft parts, machinery, scientific instruments, chemical, motor vehicles, fabricated metal products, and primary metals. Non-manufacturing opportunities exist with engineering and architectural firms, research and testing facilities, and business services in which engineering work is done on a contract basis for organizations in other sectors of the economy. Additional opportunities for employment exist in the communications, utilities, and construction industries; and with federal, state and local government agencies.

A.S. Degree

Major requirements: ENGR 210; MATH 241-242; PHYS 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

Most career opportunities in Engineering Technology require a B.S. or advanced degree. Students can fulfill lower division General Education and some major requirements at College of San Mateo. 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

Career opportunities: The English major provides students with a broad-based foundation for transfer to baccalaureate institutions. English course work prepares individuals to succeed in many diverse fields such as advertising, business, communications, editing, film/video production, insurance, journalism,

law, politics, medicine, public relations, teaching, and writing. Career opportunities include advertising copy writer or manager, columnist/journalist, editor, educator, freelance writer, information specialist, lexicographer, librarian, media planner, novelist, poet, public relations officer, publisher, radio/television announcer, reporter, researcher, technical writer, and writing consultant. Additional career opportunities include business administrator, civil servant, clergy member, foreign service officer, fund raiser, insurance examiner, legislative assistant, and program developer.

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

Most career opportunities in English require a B.A. or advanced degree. Students can fulfill lower division General Education and major requirements at College of San Mateo. 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.

Ethnic Studies

Associate in Arts Degree with a major in Ethnic Studies; Transfer Program

Career opportunities: The multicultural emphasis of the Ethnic Studies program has attracted many persons currently employed in public school systems, social services and human relations, as well as professionals whose jobs involve interpersonal situations with multiracial groups.

Students who transfer and complete and Bachelor's degree in Ethnic Studies can pursue careers in the arts, business, city planning, creative writing, education at all levels, international relations, journalism, law, medicine, politics, psychology, public health, research, and social work. In addition, Ethnic Studies courses allow public school teachers the opportunity to meet California State requirements in ethnic education.

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, 300, 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

Most career opportunities in Ethnic Studies require a B.A. or advanced degree. Students can fulfill lower division General Education and major requirements at College of San Mateo. 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.

Film

Associate in Arts Degree with a major in Film; Transfer Program

A.A. Degree

Career opportunities: Individuals interested in careers in the film history field may obtain an A.A. in Film History, which trains them in observation, analysis, and communication, the basis for many careers in both the business and government sectors.

Many graduates continue their education at a university, majoring in Film History. Career opportunities for those with a B.A. or advanced degree include work in publishing as film editors or critics and in education, teaching at the college level.

Option 1: Film History

Major requirements: FILM 100, 120, 121, 200 plus at least 8 units selected from FILM 101-106 (maximum of 3 units), 110, 461, 462, 464, 465, 466; ART 100, 101, 102, 103, 105; BCST 110; ENGL 161, 162, 163; ETHN 585; HUM. 114. Total: 20 semester units.

Transfer Program

Most career opportunities in Film History require a B.A. or advanced degree. Students can fulfill lower division General Education and major requirements at College of San Mateo. 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.

Option 2: Filmmaking

Career opportunities: Most filmmakers are employed by private cinema companies at "movie capitals" around the world. Television studios also employ a large number of camera technicians and directors to produce everything from soap operas to news documentaries. Many filmmakers go into business for themselves eventually.

Major requirements: FILM 100, 461, 462, 466 plus at least 6 units selected from FILM 101-106 (maximum of 3 units), 110, 120, 121, 200, 464, 465; ART 350-355, 360; BCST 120, 194, 232; ENGL 161, 162, 163; ETHN 585. Total: 20 semester units.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

Transfer Program

Many high paying career opportunities in Filmmaking require a B.A. or advanced degree. Students can fulfill lower division General Education and major requirements at College of San Mateo. 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.

Career opportunities: Career opportunities for Fire Sprinkler Technology graduates in-

volve the design, installation and maintenance of fire protection systems. Fire departments, insurance companies, industrial fire safety programs, and fire protection system companies hire graduates with this training.

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

Career opportunities: The Fire Technology Program prepares students to meet the high standards necessary in pursuing a career in the fire service as a firefighter or a member of related fire protection services, such as emergency medical technician. Students who wish to concentrate on meeting the basic requirements for entry-level employment are advised to complete FIRE 783 and FIRE 785. Many of the over 1100 fire agencies in California require completion of this training to meet minimum requirements for employment as a firefighter.

Firefighters can specialize in areas of the fire service such as fire prevention, training and administration. Opportunities also exist with industry safety programs, insurance companies, and equipment manufacturing companies. The Fire Technology field offers enhanced opportunities for employment to students who have completed CSM's program, and opportunities for advancement for those who possess this training are more rapid.

Through the expertise of the faculty and the exposure to professional fire service personnel, students can expect to be trained in the latest theories and techniques of fire technology, fire fighting skills, and emergency medical training.

A.S. Degree

Major requirements: FIRE 715*, 718, 720, 730, 740, 745; ENGL 800 or higher level English; 13-14 units selected from other Fire Technology courses (recommend 3 units selected from FIRE 705, 714, or 725) and State Board of Fire Services 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.

Suggested electives: FIRE 701, 702, 703, 704, 705, 706, 707, 708, 709, 711, 713, 714, 725, 735, 736, 783, 784, 785, 788. Note: other Fire Technology courses may be substituted as electives with permission.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Transfer Program

Many career opportunities in Fire Technology require a B.S. or advanced degree. Students can fulfill lower division General Education and major requirements at College of San Mateo. 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 with a grade of C or higher in each course.

*In all Fire Technology programs, FIRE 715, (FT1) Fire Protection Organization 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.

Career Opportunities

Firefighter and Emergency Medical Technician training represent a significant aspect of the Fire Technology program. Many job opportunities within the fire service require completion of a State-certified Firefighter Academy and certification as an Emergency Medical Technician. College of San Mateo's Fire Technology Program is structured to comply with certification standards and to provide students with a solid foundation for a career in the fire service.

Firefighter I Academy

The Firefighter Academy is a State Board of Fire Services certified academy that, when combined with a specified experience component, leads to State certification as a Firefighter I.

Emergency Medical Technician

Completion of Fire Technology 785, a six-unit course, and passing the State test (offered as part of the course) provide the student with a State certificate as an EMT. This course is also required as a prerequisite for students who want to continue on with paramedic training.

Floristry

(See Horticulture: Floristry)

Foreign Languages

(See specific headings for majors/transfer programs in Arabic, Chinese, French, German, Italian, Japanese and Spanish.)

French

Associate in Arts Degree with a major in French; Transfer Program

Career opportunities: In addition to providing skills in understanding, speaking, reading, and writing French, the major provides a greater understanding of French culture and civilization and prepares students for greater international and domestic career opportunities. Given the multi-national nature of the business world today, fluency in a foreign language, such as French, increases an individual's marketability and value in the areas of banking, consular and junior foreign service, education, import/export business, international business, international relations, medicine, nursing, overseas employment, police work, social security, translating/interpreting services, and social services. Specific career opportunities include attache, customs agent/inspector, diplomatic officer, fashion coordinator, foreign broadcast specialist, foreign correspondent, immigration inspector, journalist, teacher/professor, travel agent, and United Nations guide.

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

Many career opportunities in French and other foreign languages require a B.A. or advanced degree. Students can fulfill lower division General Education and major requirements at College of San Mateo. 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.

Geography

(also see Social Science major)

Career opportunities: A major in Geography prepares students to transfer to baccalaureate institutions where they may complete a Bachelor's degree in Geography or a related discipline. Many Geography majors enter the education profession at all levels. State, county and city governments, as well as private companies, hire geographers in the fields of cartography, environmental studies, resource management, and urban planning because of their broad training. The U.S. Geologic Survey traditionally hires geographers in aerial photograph interpretation, land use mapping, map making, and satellite image analysis. In addition to a career as a geographer, geographic analyst, geographic planner, or agricultural geographer, graduates have opportunities as cartographers, climatologists, demographers, ecologists, environmental scientists, meteorologists, spatial analysts, soil conservationists, surveyors, water resource managers, and land use, urban or recreational resource planners.

Transfer Program

Many career opportunities in Geography require a B.A. or advanced degree. Students can fulfill lower division General Education and major requirements at College of San Mateo. 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

Career opportunities: An Associate degree in Geological Science prepares the student for transfer to a baccalaureate institution for a four-year degree in Geology.

While some jobs are available for technicians with Associate degrees in Geological Science, a Bachelor's degree in Geology is a minimum requirement for employment in exploratory geology, minerals management, and engineering.

Approximately 40% of geologists work for oil and gas companies, either in service or exploration. Some work for mining and quarrying companies, while others work as consultants or are self-employed. Government agencies provide employment opportunities with the Bureau of Mines, U.S. Geologic Survey, and Bureau of Reclamation. Specific career opportunities include engineering geologist, environmental geologist, geochemist, geology assistant, geophysicist, mining geologist, marine geologist, paleontologist, petroleum geologist, petrologist, seismologist, soils technician, teacher/professor, volcanologist, and waste management geologist.

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

Most career opportunities in Geological Sciences require a B.S. or advanced degree. Students can fulfill lower division General Education and major requirements at College of San Mateo. 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

Career opportunities: In addition to providing skills in understanding, speaking, reading, and writing German, the major provides a greater understanding of German culture and civilization and prepares students for greater international and domestic career opportunities. Given the multi-national nature of the business world today, fluency in a foreign language, such as German, increases an individual's marketability and value in the areas of banking, consular and junior foreign service, education, import/export business, international business, international relations, medicine, nursing, overseas employment,

police work, social security, translating/interpreting services, and social services. Specific career opportunities include attache, consul, diplomatic officer, foreign advertising sales representative, foreign service officer, intelligence specialist, immigration inspector, journalist, public relations specialist, and teacher/professor.

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

Many career opportunities in German and other foreign languages require a B.A. or advanced degree. Students can fulfill lower division General Education and major requirements at College of San Mateo. 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 apprentice. For information, contact the Graphic Arts Institute of Northern California or the college Apprenticeship Department.

Career opportunities: This highly technical, yet craft-related, major trains students for careers in the graphic communications industry. Career opportunities include binder worker, communications manager, computer programmer, designer, editor, educator, engineer, graphic artist, lithographer, marketing specialist, photographer, press operator, researcher, salesperson, technician, typist, and writer.

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. or the college Apprenticeship Department.

Career opportunities: The regulation of hazardous waste management offers excellent career opportunities and a long-term demand for workers in federal, state and local government agencies. Career opportunities in hazardous materials handling include work as technicians or supervisors involved with the safe management, storage, transport, and disposal of solid, liquid, and gaseous chemicals used in modern industry. The increase in hazardous materials regulatory and compliance programs will be reflected in increased career opportunities, particularly in local government. In private industry, employment opportunities will multiply as companies increase their compliance with government and corporate regulations and policies. Since programs for environmental protection enjoy extensive public support, they are unlikely to be

downsized or eliminated. As a result, hazardous materials specialists enjoy better than average job security.

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 and 710 or 711 and 712. Total: 20-20.5 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.

History

(also see Social Science major)

Career opportunities: The History major prepares students for transfer to a baccalaureate institution for a Bachelor's degree in History or a related discipline. History course work in general is helpful to the student who intends to eventually pursue graduate studies in such diverse fields as history, education, and law.

Most career opportunities associated with this discipline require the minimum of a B.A. degree. Some business firms and government agencies seek persons with a broad overview and perspective of historical phases and processes of change. In addition to a career as a historian, career possibilities include anthropologist, antique dealer, archivist, attorney, book dealer, correspondent, customs inspector, college administrator/professor, foreign service officer, fund raiser, librarian, museum curator/technician, news editor, researcher/research analyst, theologian/clergy member, title examiner, and writer.

Transfer Program

Most career opportunities related to History require a B.A. or advanced degree. Students can fulfill lower division General Education and major requirements at College of San Mateo. 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

Career Opportunities: The Horticulture program provides excellent preparation for immediate employment in the field. Career opportunities include landscape construction and design, greenhouse nursery production, retail nursery sales, park/golf course management, garden maintenance, interior plantscaping, pest control, and floristry. The field of horticulture offers unlimited employment opportunities in San Mateo County, one of the major producers of plants and flowers in the United States.

Horticulture: Environmental

Associate in Science Degree with a major in Environmental Horticulture; Certificate Program; Transfer Program.

Career opportunities: The Environmental Horticulture major provides excellent preparation for immediate employment in landscape construction and design, greenhouse nursery production, park/golf course management, garden maintenance, interior plantscaping, and pest control.

A.S. Degree

Major Requirements (for all options): HORT 311 or 711; 312 or 712; 315 or both 701 and 702; 327 or both 705 and three units selected from HORT 325, 706, or 742; HORT 320 or BIOL 145 or 110.

Option 1 : (Landscape Construction/ Design)

Career opportunities: Training in this horticultural option prepares the student for careers in landscape construction and landscape design. Students are prepared for the California Landscape Contractors License Examination, and completion of the Associate degree can be applied as the equivalent of one year's experience toward contractor's license requirements.

Major requirements: as listed above plus HORT 340 or 709; 342 or 721. Total: 21-29 semester units.

Option 2: (Nursery Management)

Career opportunities: Training in this horticultural option leads to career opportunities in nursery facilities planting, cultivating, harvesting, and transplanting trees, shrubs, and plants. The nursery industry includes wholesale growers and distributors of nursery stock, as well as various retail outlets and services. In wholesale nurseries, graduates with advanced degrees have opportunities as production managers and assistant

managers, plant propagators, and landscape nurserypersons. Upon obtaining experience in nursery management, some graduates branch out into their own businesses, selling landscape maintenance packages to homeowners, apartment complex owners, and business offices. This entrepreneurial effort can lead to a career as a landscape maintenance contractor, who assumes full responsibility for landscape upkeep on contracted jobs.

Major requirements: as listed above plus HORT 330 or both 777 and 778; 340 or 709. Total: 21-30 semester units.

Option 3: (Landscape Management)

Career opportunities: Training in this horticultural option leads to career opportunities in gardening and grounds-keeping for individuals and organizations. Some landscape gardeners work on large construction projects, such as office buildings and shopping malls. For residential customers, the gardener terraces hillsides, builds retaining walls, and installs patios, as well as plants flowers, trees and shrubs. Other landscape gardeners specialize in lawn service, maintaining lawns and shrubs for a fee. Groundskeepers, generally classified as either grounds managers or grounds maintenance personnel, maintain a variety of facilities, including athletic fields, golfcourses, cemeteries, and parks. After several years of experience, gardeners and groundskeepers can advance to supervisory positions. Supervisors can advance to grounds managers or superintendents for golf courses, athletic facilities, cemeteries, church campuses, and schools. Many gardeners and groundskeepers move into landscape contracting.

Major requirements: as listed above plus HORT 330 or both 777 and 778; 342 or 721. Total: 21-29 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

Many higher paying career opportunities in Environmental Horticulture require a B.S. or advanced degree. Students can fulfill

lower division General Education and major requirements at College of San Mateo. 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.

Career opportunities: This Horticulture program provides excellent preparation for immediate employment in the industry. Employment opportunities are found throughout the year in retail nursery sales, interior plantscaping, and floral design shops.

A.A. Degree

Major requirements: HORT 411, 413, 414, 415, 417, 419, 420, 421; plus 3.0 units selected from HORT 325 or 327; plus 1.5 units selected from HORT 326, 410, 421, 422 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

Many high paying career opportunities in Floristry require a B.A. or advanced degree. Students can fulfill lower division General Education and major requirements at College of San Mateo. 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

Career opportunities: The Associate degree in Humanities prepares students for transfer to a baccalaureate institution to obtain a four-year degree in Humanities or a related discipline. Students increase their understanding of self and the culture around them through this enriching curriculum, thereby enhancing their long-term potential for career advancement. Many Humanities majors seek careers as teachers. Additional career possibilities include communications specialist and writer in humanistic endeavors.

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

Most career opportunities in Humanities require a B.A. or advanced degree. Students can fulfill lower division General Education and major requirements at College of San Mateo. 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.

Human Services

Associate in Arts Degree with a major in Human Services; Transfer Program; Certificate Program

The Human Services Program at College of San Mateo was developed in cooperation with State and County Departments of Mental Health, Rehabilitation, Vocational Rehabilitation, and Human Services. The program is designed to train personnel to provide value-based services for individuals and families in need of temporary social, health, and economic assistance.

Career Opportunities: The Human Services Program prepares students for various paraprofessional fields, such as mental health case manager, job coach/employment specialist, social service intake specialist, community health worker, and other entry-level human services agency positions. Graduates of the program can expect to work as entry-level employees under the direct supervision of social workers and other human services professionals in public and non-profit social service agencies.

A.A. Degree

Major requirements: HMSV 100, 110, 115, 120; SOSC 310; SPCH 140; COOP 641. Total: 19 semester units.

Plus General education and other requirements for the A.A. degree (see Index: General Education).

Transfer Program

Students can fulfill lower division General Education and major requirements at College of San Mateo to prepare for upper-division work in human services and other behavioral sciences. 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 requirements: completion of A.A. degree major requirements listed above with a grade of C or higher. Total: 19 semester units.

Instrumentation Technology

Instrumentation Technology is a unique College of San Mateo program that focuses on preparing trained technicians for a wide number of manufacturing and process industries in the Bay Area, and around the country. Some of the industries employing students from this program are: biotechnology, petroleum, semiconductor manufacturing, and water treatment. Students learn to work with computer-controlled equipment and processes as they take electronics, computer, and drafting courses. Students previously taking courses in electronics, computer, and drafting subjects, as well as physics and chemistry, may qualify for advanced standing in this interdisciplinary program.

Italian

Career opportunities: In addition to providing skills in understanding, speaking, reading, and writing Italian, the major provides a greater understanding of Italian culture and civilization and prepares students for greater international and domestic career opportunities. Given the multi-national nature of the business world today, fluency in a foreign language, such as Italian, increases an individual's marketability and value in the areas of banking, consular and junior foreign service, education, import/export business, international business, international relations, medicine, nursing, overseas employment, police work, social security, translating/interpreting services, and social services. Specific career opportunities include attache, diplomatic officer, immigration inspector, journalist, teacher/professor, and travel agent.

Transfer Program

Many career opportunities in Italian and other foreign languages require a B.A. or advanced degree. Students can fulfill lower division General Education and major requirements at College of San Mateo. 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.

Japanese

Career opportunities: In addition to providing skills in understanding, speaking, reading, and writing Japanese, the major provides a greater understanding of Japanese culture and civilization and prepares students for greater international and domestic career opportunities. Given the multi-national nature of the business world today, fluency in a foreign language, such as Japanese, increases an individual's marketability and value in the areas of banking, consular and junior foreign service, education, import/export business, international business, international relations, medicine, nursing, overseas employment, police work, social security, translating/interpreting services, and social services. Specific career opportunities include attache, counselor, diplomatic officer, immigration inspector, foreign advertising sales representative, journalist, teacher/professor, and tour guide.

Transfer Program

Many career opportunities in Japanese and other foreign languages require a B.A. or advanced degree. Students can fulfill lower division General Education and major requirements at College of San Mateo. 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

Career opportunities: Individuals with a background in Journalism have a wide variety of career opportunities working for advertising agencies, corporate communications divisions, magazines, news agencies, newspapers, publishing companies, and radio/television stations. Specific career opportunities include advertising copy writer, biographer, columnist, correspondent, editor, editorial assistant, editorial writer, inter-

viewer, journalist, legislative assistant, novelist, photographer, press/public relations officer, proofreader, radio/television announcer or writer, reporter, and science, speech or technical writer.

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

Most high paying career opportunities in Journalism require a B.A. or advanced degree. Students can fulfill lower division General Education and major requirements at College of San Mateo. 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

Career opportunities: A Liberal Studies major provides students with a broad liberal arts and science education that blends the traditional subjects in the humanities, natural sciences, and social sciences. Many employers and professional schools give preference to graduates who possess the richly diversified education this major provides.

A Liberal Studies degree makes an individual extremely marketable. Many employers view Liberal Studies majors as having a wide variety of knowledge and skills, and as being among those who are quickest to adjust to change and opportunities. The Liberal Studies major is the main avenue of preparation for those desiring to become elementary school teachers. This major is also appropriate as preparation for various professions and graduate programs such as business, counseling, law, librarianship, medicine, and social work. Additional career opportunities associated with Liberal Studies are editor, freelance writer, journalist, market researcher, personnel officer, social scientist, and travel agent.

A.A. Degree

Option 1:

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).

Option 2:

Major requirements: fulfillment of Areas A-E of the California State University General Education requirements (see Index: General Education) or completion of Areas 1-5 of the California State University Intersegmental General Education Transfer Curriculum (CSU-IGETC) requirements.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

Note: Completion of the major requirements under Option 2 will automatically fulfill the Math/Quantitative Reasoning and English competency requirements, and the requirements of two sections under General Education: (2) Language and Rationality and (5) Additional Requirements. The remaining General Education requirements which must be fulfilled are: (1) American History and Institutions and California State and Local Government, (3) Health Science, and (4) Physical Education.

Option 3:

Major requirements: fulfillment of Areas A-E of the University of California Intersegmental General Education Transfer Curriculum (UC-IGETC) requirements.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

Note: Completion of the major requirements under Option 3 will automatically fulfill the Math/Quantitative Reasoning and English competency requirements, and the requirements of one section under General Education: (5) Additional Requirements. The remaining General Education requirements which must be fulfilled are: (1) American History and Institutions and California State and Local Government, (2) Language and Rationality, (3) Health Science, and (4) Physical Education.

Transfer Program

Most career opportunities in Liberal Studies require a B.A. or advanced degree. Students can fulfill lower division General Education and major requirements at College of San Mateo. 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

Career opportunities: Career opportunities for those who major in the Biological Sciences and obtain a Bachelor's or advanced degree include a variety of interesting occupations related mainly to biology, agriculture or medicine.

Biological professions include anatomist, aquatic biologist, bacteriologist, biologist, biotechnologist, botanist, cytogeneticist, cytologist, ecologist, embryologist, entomologist, geneticist, herpetologist, ichthyologist, mammalogist, marine biologist, microbiologist, molecular biologist, morphologist, mycologist, ornithologist, paleobotanist, paleozoologist, parasitologist, pathologist, pharmacologist, photobiologist, physiologist, physiologist, protozoologist, systematist, taxonomist, toxicologist, tropical biologist, virologist, wildlife biologist, and zoologist. Many biologists are educators as well as scientists. Biologists are also employed as forensic scientists, illustrators, museum specialists, naturalists, photographers, and science writers/editors.

Agricultural professions include agricultural biologist, agrigeneticist, animal scientist, apiculturist, farmer/farm manager, field crop manager, fish and game warden, food technologist, foresters/forestry technicians, horticulturist, plant and animal breeder, plant and animal physiologist, plant quarantine/pest control inspector, range scientist, and soil scientist/conservationist.

Medical professions include audiologist, chiropractor, coroner, dentist, exercise physiologist, health care administrator, medical laboratory technologist/technician, medical librarian, nurse, nutritionist, optometrist, pharmacist, physician, podiatrist, public/environmental health specialist, sanitarian, speech pathologist, and veterinarian. Additional medical careers include specialists in sports medicine, and manual arts, music, occupational, physical, and recreational therapists.

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

Most career opportunities in Biological Sciences require a B.S. or advanced degree. Students can fulfill lower division General Education and major requirements at College of San Mateo. 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

Career opportunities: Biotechnology is a field of scientific research which combines the study of engineering and molecular life sciences. The biotechnologist therefore requires the knowledge and skills of the biochemist, molecular biologist, microbiologist, and immunologist, as well as those of the engineer. An advanced degree in Biotechnology can lead to career opportunities in manufacturing/production, marketing/sales, patents, quality control, regulatory affairs, and research. In addition, there are extended career opportunities for biotechnology specialists as lawyers, physicians, professional managers at all corporate levels, regulatory agency personnel, toxicologists, veterinarians, pharmaceutical manufacturers and clinical researchers.

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: 37-38 semester units.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Transfer Program

Most career opportunities in the field of Biotechnology require a B.S. or advanced degree. Students can fulfill lower division General Education and major requirements at College of San Mateo. 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.

Career opportunities: The Associate in Arts degree with a major in Life Sciences is designed for those students who do not necessarily plan on transferring to a baccalaureate institution as biology majors.

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, 195, 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

(Pre-Medical, Pre-Dental, Pre-Veterinarian, Medicine, etc.)

Associate in Science Degree with a Major in Medical Sciences (Pre-Medical, Pre-Dental, Pre-Veterinarian, Medicine, etc.); Transfer Program

Career opportunities: An Associate degree in the Medical Life Sciences, when followed by transfer to a baccalaureate institution for a Bachelor's degree and continued study at medical-related professional schools, leads to career opportunities in the medical field. Careers in medicine include general practitioner, obstetrician, pediatrician, psychiatrist, surgeon, and ear, nose and throat specialist. The dental field offers careers in general dentistry, as well as endodontics, oral pathology, orthodontics, pediatric dentistry, periodontics, and prosthodontics. Most students who complete veterinary school pursue careers as veterinarians, though some choose related careers, such as laboratory animal medicine, wildlife pathology, or research.

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

Most career opportunities in the Medical Life Sciences field require not only a B.S. degree, but an advanced degree as well. Students can fulfill lower division General Education and major requirements at College of San Mateo. 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

(Also see Nursing)

Associate in Science Degree with a major in Pre-Nursing; Transfer Program

Career opportunities: The Life Sciences degree in Pre-Nursing prepares students to transfer to a four-year program at a baccalaureate institution. Upon completion of a Bachelor of Science in Nursing, graduates choose from first level professional nursing staff positions in specializations which include community health, geriatrics, maternity, mental health, pediatrics, psychiatry, and surgery.

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

Most high paying career opportunities in the field of Nursing require a B.S. or advanced degree. Students can fulfill lower division General Education and major requirements at College of San Mateo. 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.

Management

Associate in Arts Degree with a major in Management; Certificate Program

Career opportunities: This program is designed for individuals working at the supervisory level and for those interested in supervisory positions. An advisory committee composed of representatives from various types of businesses and industrial organizations has assisted the College staff in the development of the program.

Career opportunities for those with supervisory and management training are expected to be excellent during the foreseeable future. Employers in virtually every field are increasingly seeking individuals with formal training in organization and management for supervisory, mid-level, and top management positions. Specific management opportunities include administrative assistant, bank trust officer, branch manager, chief executive officer, claims adjuster, department/division manager, employment interviewer, first-line supervisor, inventory manager, management consultant, management trainee, office manager, operations manager, plant manager, president, production controller, project manager, shift supervisor, small business owner/manager, and store manager. Some of these careers require a Bachelor's or advanced degree. The program provides readily usable skills for the student who earns an Associate degree, as well as a base for those who intend to transfer to baccalaureate institutions.

A.A. Degree

(Management: Business Management)

Career opportunities: Management is an essential function of every business. Accordingly, there are a substantial number and wide variety of management positions ranging from first-line supervisor and store manager to division manager and chief executive officer. Managers need to have technical knowledge as well as interpersonal, communications, and conceptual skills. They spend much of their time making business planning and operational decisions. Managers' salaries are significantly above those of the average worker. Managers are responsible for business performance and must lead and motivate their subordinates to accomplish business goals and objectives.

Major requirements: BUS. 100; MGMT 100, 235; ACTG 100 or 3 units from the BUSD or BUSW 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)

Career opportunities: Careers in Marketing Management are largely in wholesale and retail trade and include areas such as advertising, customer service, distribution, market research, personal selling, retailing, and wholesaling. Specific career opportunities include positions in advertising such as account executive, advertising manager, creative staff member, media planning/buyer, and traffic manager; assistant research analyst; booking agent; brand/product manager; buyer/merchandiser; consumer affairs director; financial planner; import-export agent; management trainee; manufacturer's representative; marketing manager; market research manager; purchasing agent; retail manager; sales associate; and wholesaler. Additional career possibilities include claims adjuster, Internal Revenue investigator, securities trader, and stockbroker.

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; 1.5-3 units from the BUSD or BUSW series. Total: 24 units.

(Management: Small Business Management)

Career opportunities: In today's business environment, small businesses represent the most rapidly growing segment of our economy, generating a large proportion of all new jobs. Many small businesses are in

wholesale and retail trade. Finance, insurance, real estate and construction also account for a substantial portion of small businesses. While small business managers usually work long hours and have to perform a wide variety of functions, they enjoy a great deal of independence and are not restrained by the rules and regulations found in large bureaucratic organizations. They enjoy the freedom from routine activities and from boring and unchallenging jobs.

Major requirements: BUS. 100; BUS. 150 or 701, 705, 720; ACTG 100 or 3 units from the BUSD or BUSW 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.

Manufacturing Technology

Career opportunities: The Manufacturing Technology major emphasizes knowledge and skills in drafting, machining, fabrication, applied mathematics, welding, industrial computer, power systems, and other related subjects. Courses focus on applied technology through a combination of theory and laboratory. The Manufacturing Technology program at CSM is designed to prepare students for immediate employment in the field through comprehensive training in the operation of all standard machine tools and metal-working equipment. In addition to achieving practical competency, instruction in drafting, welding, and industrial materials ensures that graduates are fully qualified technicians ready to enter the work force.

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 working knowledge in a wide range of manufacturing processes and may be qualified to work in areas which include applied design, equipment modification, machining, maintenance and repair, prototype engineering, and related industrial activities.

The field of Manufacturing Technology plays a key role in any industry that utilizes the lathe, milling and grinding machines, and other basic machining tools in production. The demand for competent machinists, tool and die makers, programmers, and technicians far exceeds the supply, particularly in the San Francisco Bay Area. Employers range from small shops that employ only a few workers manufacturing specialized products to the auto industry, which employs thousands.

Transfer Program

Many high paying career opportunities in Manufacturing Technology require a B.S. or advanced degree. Students can fulfill lower division General Education and major requirements at College of San Mateo. 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.

Mathematics

Associate in Science Degree with a major in Mathematics; Transfer Program

Career opportunities: Mathematics provides the foundation for studying engineering; the biological, physical and health sciences; economics; business; computer science; statistics; and many other fields. A major in mathematics itself opens up job opportunities in numerous fields, as mathematical problem-solving skills are widely applicable.

The Mathematics major may be used as a basis for professional careers which include accountant, actuary, appraiser, assessor, auditor, banker, biometrician, budget analyst, casualty rater, controller, computer programmer, data processing manager, demographer, econometrician, educator at all levels, engineering analyst, epidemiologist, financial analyst/planner, insurance agent/broker, loan officer, management trainee, market research analyst, mathematician, securities trader, statistician, surveyor, and systems analyst. Additional professional areas for which a degree in Mathematics prepares individuals are the aircraft and space industries, architectural and surveying services, civil service, communications, and science, including work in high technology industries such as research and development laboratories.

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, 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

Most career opportunities in Mathematics require a B.S. or advanced degree. Students can fulfill lower division General Education and major requirements at College of San Mateo. 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

Career opportunities: The ability to work well with people, be well organized, and be empathetic in dealing with patients are essential qualities in a medical assistant. The Medical Assisting program at CSM is designed to provide the finest training and experience available. Through the expertise of a talented faculty and exposure to professionals in the field, students can expect to learn administrative duties such as medical/financial records management, medical report transcription, patient appointment scheduling, and clinical duties including preparation of patients for examination, assistance with minor surgery, giving injections, and operating electrocardiographs.

The field of Medical Assisting is one of the fastest-growing occupations in this decade. Career opportunities for the well-trained medical assistant are plentiful. Graduates of CSM's program secure employment in physician's offices, clinics, hospitals, labs, medical publishing firms, laboratories, pharmaceutical firms, public health agencies, and the claims departments of health insurance companies.

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 Billing Specialist

Certificate Program

Career opportunities: Medical Billing Specialists usually perform their duties for all providers of health care services and equipment in hospitals, clinics, and private medical offices.

The employment outlook for Medical Billing Specialists is excellent and is expected to grow as health care needs continue to increase. Because of the rapid expansion in health care, employment opportunities include all providers of health care services and supplies, hospitals, clinics, health agencies, private medical offices, medical labs, educational institutions, and insurance carriers.

Certificate Requirements: ACTG 100; MEDA 110, 150, 160, 161, 162, 163, 164, 165, 166. Total: 18 semester units.

Medical Assisting: Medical Transcription

Associate in Arts Degree with a major in Medical Transcription; Certificate Program

Career opportunities: Attention to detail, organizational skills, and ability to work both independently and under pressure are essential qualities in a medical transcriptionist. Medical transcriptionists specialize in transcribing physician's reports on patient medical history, physical examination, surgery, discharge, and radiologic/nuclear medicine procedures from audiocassette dictation or written notes.

Medical transcriptionists work largely in physician's offices and hospitals. Their skills are also transferable to non-medical environments such as business offices, law offices, newsrooms, radio stations, and television transcription companies.

A.A. Degree

Major requirements: BIOL 130; BUS 317; BUSW 114; 3 units selected from BUSD 204, 205, or BUSW 204, 205 or BUSW 214, 215 plus 1.5 units in BUSW series.; MEDA 110, 115, 140, 141, 160, 190 with a grade of C or higher in each course. Total: 28.5 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.

Multimedia/Web Design

Associate in Arts Degree with a major in Multimedia/Web Design; Transfer Program; Certificate Program

Career Opportunities: Multimedia/Web Design is an interdisciplinary program that

brings together various fine arts and computer skills, allowing students to work within their own individual sub-specialties. This approach enhances creativity and communication and encourages teamwork. Through hands-on creation of multimedia, students apply theoretical knowledge and experience the production process. With the expansion of the internet and the need for continual updating of websites, Multimedia/Web Design job opportunities continue to grow. Specific career opportunities, some of which may require a B.A. or further training beyond that available at College of San Mateo, include Producer, Creative Director, Art Director, Graphic Designer, Interactive Writer, Interface Designer, Web Designer, Webmaster, Video Producer, Sound Designer, Technical Director, and Programmer.

A.A. Degree

Major requirements: MULT 110, 120, 130, 150, 155, 240, 370, 380; MULT 140 or CIS 180; ART 365 or both TA&G 140 and 141; CIS 376 or BUSW 534; TA&G 130; .5-3 units selected from MULT 125, BCST 100, ART 214, 301, 350; 6 units selected from ART 366, 367, BCST 131, CIS 374/375, 378, MULT 220, 225, 230, 245, 250, 260, 311-320, 350, 690; TA&G 101, 110, 131, 220, 240. Total: 27-32 semester units.

Transfer Program

Some career opportunities in multimedia/web design require a B.A. degree or advanced training from selected schools. Students can fulfill lower division General education and major requirements at College of San Mateo. 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: 27-32 semester units.

Music

Associate in Arts Degree with a major in Music; Transfer Program

Career opportunities: The College of San Mateo provides a creative environment where every student may become enriched through an active association with the art of music and a faculty who are active in the music profession. The Music Department at

College of San Mateo places strong emphasis upon performance as well as composition in both traditional and electronic media. At the same time, the department offers the general student enhanced understanding and appreciation of all forms of music. Through this two-fold approach, the department's purpose becomes clear: to promote excellence in all aspects of music performance and academic course work, to provide basic preparation for careers in music, and to promote interest in all music and artistic endeavors at the College and in the Bay Area community.

Career opportunities include accompanist; arranger; composer; conductor; critic; band, orchestra or recording musician; lyricist, performing instrumentalist or vocalist; music director (radio station); private music instructor; music producer; music publisher; music therapist; night-club/restaurant entertainer; recording engineer; and teacher/professor. Additional career possibilities include choir director, music librarian, music minister, piano tuner, professional manager, recreation specialist, and soloist.

A.A. Degree

Major requirements: 9 units from MUS. 100, 101, 102, 103, 131, 132, 133, 170; 3 units from MUS. 202, 240, 250, 275; 6 units from MUS. 451, 453, 490; 3 units from MUS. 301, 302, 303, 304, 320, 371, 372, 373, 374, 401, 402, 403, 404. Total: 21 semester units.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

Transfer Program

Many career opportunities in Music require a B.A. or advanced degree. Students can fulfill lower division General Education and major requirements at College of San Mateo. 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; Certificate Program; Transfer Program

Career opportunities: The Electronic Music major combines the areas of music, electronics and computer science, with a primary emphasis on music. The Electronic Music major is designed for students who

intend to transfer to baccalaureate institutions; however, upon completion of the Associate degree in this discipline, many individuals start their own electronic music studios, where they record music for videos, films, or individual artists, as well as compose their own music on electronic instruments. Completion of a Bachelor's degree in Electronic Music expands career opportunities to include performer, producer, recording engineer, and sound engineer. Software companies also hire Electronic Music graduates to develop and test new electronic equipment ranging from synthesizers to software packages.

A.A. Degree

Major requirements: MUS. 290, 291, 292, 293; CIS 110; ELEC 110; 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. 202, 240, 250, or 275. Total: 26.5 semester units.

Plus General Education and other requirements for the A.A. degree (see catalog index: General Education).

Transfer Program

Many career opportunities in Electronic Music require a B.A. or advanced degree. Students can fulfill lower division General Education and major requirements at College of San Mateo. 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

Nursing

Registered Nursing Program

Associate in Science Degree with a major in Nursing; Transfer Program

Career opportunities: 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. 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.

Career opportunities are available in hospitals, physician's offices, clinics, labs, nursing and personal care facilities, public health and other government agencies, educational services, health and allied services, outpatient care facilities, and the claims departments of health insurance companies. Many nurses specialize in areas such as cardiac care, geriatrics, intensive care, obstetrics, pediatrics, and surgery. Specific career opportunities include nursing administrator, clinic nurse, critical care nurse, emergency department nurse, flight nurse, home health nurse, hospital staff nurse, industrial nurse, medical researcher, nurse anesthetist, nurse midwife, nurse practitioner, office nurse, public health nurse, school nurse, and teacher/educator.

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, 225, 231, 232, 235, 241, 242, 245; 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: 69 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 574-6218 for additional information. Students who wish to transfer into the nursing program or challenge nursing courses should also call the Nursing Department.

Transfer Program

Many specialized, career opportunities in Nursing require a B.S. or advanced degree. Students can fulfill lower division General Education and major requirements at College of San Mateo. 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.

Paramedic Apprenticeship

Associate in Science Degree with a major in Paramedic Apprenticeship; Certificate Program

The courses required for this degree are administered by College of San Mateo in conjunction with the Paramedic Training Authority/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 Paramedic training Authority or the college Apprenticeship Department.

Required preparation: current employment as a firefighter and sponsorship by employing department.

A.S. Degree

Major requirements: PARA 701, 702, 703, 704, 705, 706, 707, 708. Total of 29.5 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. Total: 29.5 semester units.

Philosophy

(Also see major in Social Science)

Career opportunities: Courses in Philosophy prepare students for transfer to a baccalaureate institution for a degree in Philosophy or a related discipline. As a profession, philosophy is virtually limited to those who teach and write it. However, the emphasis placed in Philosophy course work on development of critical thinking abilities provides a sound foundation for a broad liberal arts education, valuable for its own sake, as well as preparation for careers in related professional humanistic or social disciplines. Philosophy courses serve as good preparation for careers in data processing and information systems, the human services, labor relations, law, library science, management, medicine, ministry, physical sciences, politics and government, psychology, publishing, scientific research, social work, and teaching.

Specific career opportunities include archivist, biographer, college administrator, consultant, cultural affairs officer, religious activities director, etymologist, insurance agent/broker, lawyer, librarian, manuscript reader, peace corp worker, pastoral assistant, philologist, teacher/professor, and writer.

Transfer Program

Most career opportunities in fields related to Philosophy require a B.A. or advanced degree. Students can fulfill lower division General Education and major requirements at College of San Mateo. 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

Career opportunities: A major in Physical Education prepares students to transfer to baccalaureate institutions where they may complete a Bachelor's degree in Physical Education or a related discipline. Courses in Physical Education teach students an appreciation of the role exercise, activity and

sports play in the development of well-rounded individuals interested in physical well-being and the productive use of leisure time. The Physical Education major may be used as the basis for careers which include athletic manager, athletic trainer, camp counselor, choreographer, coach, community center leader, corrective therapist, dance therapist, exercise test technologist, health and safety director, industrial recreation leader, league manager, playground director, physical or adaptive therapist, racquet club manager, recreation leader, recreation specialist, recruiter, referee, resort sports coordinator, sportscaster, sports editor, and teacher.

Transfer Program

Most career opportunities in Physical Education require a B.A. or advanced degree. Students can fulfill lower division General Education and major requirements at College of San Mateo. 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

Career opportunities: The A.S. degree in Physical Science provides students with a breadth of understanding of the physical sciences, in addition to a depth of knowledge in the specialized fields of astronomy, chemistry, geology, and physics. The program is designed to prepare students for transfer to baccalaureate institutions as majors in Physical Science or related science disciplines.

Career opportunities include astronomer, chemist, geographer, geologist, geophysicist, meteorologist, oceanographer, and physicist. Physical scientists are employed by government agencies, and the chemical, computer, construction, drug, food, industrial electronics, manufacturing and petroleum industries. Additional career opportunities exist in energy management, mineral exploration and land use planning.

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, 125, 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, 101; PHYS 250, 260, 270; PSCI 100.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Transfer Program

Most career opportunities in Physical Science require a B.S. or advanced degree. Students can fulfill lower division General Education and major requirements at College of San Mateo. 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

Career opportunities: The A.S. degree in Physics is designed to prepare students for transfer to baccalaureate institutions as Physics or other science majors. Physics is also an accepted pre-medical field of study. A large percentage of Physics majors select employment with universities as researchers and/or professors. Private industry employs approximately two-thirds of all non-academic physicists in companies manufacturing aircraft and missiles, chemicals, electrical equipment, and scientific equipment. Government, hospitals, and commercial research laboratories also employ Physics graduates. Specific careers include aerodynamist, airplane navigator, air pollution operating specialist, ballistics expert, educator, electrical or mechanical engineer, electrician, hydrologist, industrial hygienist, and electrical, laser, mechanical or optics physicist.

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

Most career opportunities in Physics require a B.S. or advanced degree. Students can fulfill lower division General Education and major requirements at College of San Mateo. 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 Department.

Career opportunities: Employment opportunities for plumbers are expected to increase moderately through the year 2005 as a result of anticipated growth in residential, industrial and commercial construction. Building renovations and repairs in old residential plumbing systems will also spur the demand for plumbers. In addition, a number of jobs will become available each year as older plumbers retire.

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.

Political Science

(also see Social Science major)

Career opportunities: Courses in Political Science prepare students for transfer to baccalaureate institutions for a degree in Political Science or a related discipline. A background in Political Science and government prepares students for a wide range of careers in law, foreign service, political office, and with government agencies. Specific career opportunities include administrator, book critic, budget analyst, campaign aide, city manager, city planner, Congressional district aide, consular officer, diplomatic officer, educator, elected official, election supervisor, foreign service officer, foreign trade specialist, fund raising director, intelligence specialist, labor relations specialist, lawyer, legislative aide, lobbyist, military officer, occupational analyst, paralegal, personnel manager, political economist, political scientist, public information officer, public opinion surveyor, public relations specialist, research assistant, reporter, and urban planner.

Transfer Program

Most career opportunities in fields related to Political Science require a B.A. or advanced degree. Students can fulfill lower division General Education and major requirements at College of San Mateo. 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.

Psychology

(also see Social Science major)

Career opportunities: Psychology is a broad discipline which employs both pure science and practical application to everyday living. Courses in Psychology prepare students for transfer to baccalaureate institutions for a degree in Psychology or a related discipline. Career opportunities include administrator, community college instructor or academic counselor, drug abuse counselor, employment counselor, human factors specialist, mental health professional, outreach specialist, personnel analyst, personnel management specialist, probation officer, psychiatric aide, psychiatrist, psychologist,

psychometrist, research director, social services director, survey designer, student affairs officer, therapist, training officer, and Marriage, Family, Child Counselor.

Transfer Program

Most career opportunities in fields related to Psychology require a B.A. or advanced degree. Students can fulfill lower division General Education and major requirements at College of San Mateo. 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.

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.

Career opportunities: Essentially all realtors are employed in private real estate offices and brokerages as salespersons or brokers. Some realtors secure employment with land developers, land buying corporations, and government agencies. Additional opportunities for those with a background in real estate include appraiser, developer, escrow officer, lending officer, mortgage banker, and property development and/or management specialist.

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. 315; 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.

Real Estate: Escrow

Associate in Arts Degree with a major in Escrow; Certificate Program

Career opportunities: California offers unique opportunities for those trained in escrow, as escrow is an indispensable mechanism in the consummation of all real estate transactions. As a consequence, escrow has developed into a business activity requiring a high degree of skill, sophistication, motivation, and ability to remain updated in this constantly changing field. Most escrow officers work for escrow companies, while others work directly for title companies. Specific career opportunities available in the field of escrow include escrow officer, escrow supervisor, and escrow manager.

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, 315; ECON 100 or 102; PSYC 100; R.E. 110, 141, 143, 210, 235; SPCH 100 or 120. Total: 39-41 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; COOP 641**; R.E. 110, 141 or 143, 200, 210, 230 with a grade

of C or higher in each course. Total: 24 - 24.5 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.

Recreation Education

Career opportunities: Most full-time career opportunities for recreation education specialists are with government agencies, primarily municipal and county parks and recreation departments. Additional employers include amusement parks, apartment complexes, commercial recreation establishments, health and athletic clubs, hotels and resorts, nursing and personal care facilities, sports and entertainment centers, residential care facilities such as half-way houses and group homes, social service organizations, summer camps, tourist attractions, vacation excursion companies, and wilderness/survival enterprises. Additional opportunities exist in membership organizations with a civic, social, fraternal, or religious orientation, such as the Boy Scouts, YMCA and Red Cross.

Transfer Program

Most career opportunities in Recreation Education require a B.A. or advanced degree. Students can fulfill lower division General Education and major requirements at College of San Mateo. 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 Department.

Career opportunities: Long-range employment prospects for refrigeration and air conditioning mechanics are excellent. The growing need for air conditioning and refrigeration equipment for industrial, commercial, and home use will create a demand for mechanics who can design, install, maintain and repair these systems.

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.

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.

Career opportunities: 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. An A.A. degree prepares students for transfer to a baccalaureate institution for further study in Social Science or one of its encompassed fields.

Career opportunities for social scientists are found with federal, state and local government agencies. Additional opportunities exist with colleges and universities in research and teaching. Some social scientists are self-employed in research or special studies for business, industry or government.

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 SOSOC 111); sociology. Total: 19 semester units.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

Transfer Program

Most career opportunities in Social Science require a B.A. or advanced degree. Students can fulfill lower division General Education and major requirements at College of San Mateo. 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.

Sociology

(also see Social Science major)

Career opportunities: Courses in Sociology prepare students to transfer to baccalaureate institutions for a degree in Sociology or a related discipline. A background in Sociology provides students with career opportunities which include child care program developer, claims examiner, criminologist, demographer, employment counselor, industrial sociologist, interviewer, population

or public opinion analyst, probation officer, public health statistician, public relations consultant, recreation specialist, researcher, social ecologist, social worker, and urban planner.

Transfer Program

Most career opportunities in Sociology and related fields require a B.A. or advanced degree. Students can fulfill lower division General Education and major requirements at College of San Mateo. 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

Career opportunities: In addition to providing skills in understanding, speaking, reading, and writing Spanish, the major provides a greater understanding of Spanish culture and civilization and prepares students for greater international and domestic career opportunities. Given the multi-national nature of the business world today, fluency in a foreign language, such as Spanish, increases an individual's marketability and value in the areas of banking, consular and junior foreign service, education, import/export business, international business, international relations, medicine, nursing, overseas employment, police work, social security, translating/interpreting services, and social services. Specific career opportunities include bilingual aide, border patrol officer, buyer, court interpreter, counselor, customs agent/inspector, foreign exchange clerk, foreign student advisor, interpreter, journalist, museum curator, physician, scientific linguist, tour guide, and tutor.

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

Many career opportunities in Spanish and other foreign languages require a B.A. or advanced degree. Students can fulfill lower division General Education and major requirements at College of San Mateo. 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 Communication

Associate in Arts Degree with a major in Speech Communication; Transfer Program

Career opportunities: An A.A. degree in Speech prepares students for transfer to a baccalaureate institution for a degree in Speech or a related discipline. The ability to organize one's thoughts and present them with clarity and precision are communication skills transferable to all careers. A background in speech communication is particularly applicable to careers in advertising, arts administration, cinema, copy editing and writing, corporate communications, counseling, education, entertainment, interviewing, journalism, labor relations, law, the legislature, lobbying, management, marketing, media, news analysis, personnel, play writing, politics, proofreading, public affairs, public information, public relations, radio and television, reporting, research, sales, script writing and editing, speech writing, sportscasting, supervision, television, and theatre.

A.A. Degree

Major requirements: 15 units selected from SPCH 100, 111, 112, 120, 140, 150 or 170; 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

Most career opportunities in Speech Communication require a B.A. or advanced degree. Students can fulfill lower division General Education and major requirements at College of San Mateo. 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: This highly technical yet craft- and art-related major prepares students for careers in the visual communications industry. Although much of the work created by graphic artists is concerned with the design and digital preparation of artwork for print, graphic artists with the right software skills and training are now finding a wide variety of new outlets for their talents. Specific career opportunities, some of which may require a B.A. or further training beyond that available at College of San Mateo, include production artist, graphic artist, technical illustrator, illustrator, graphic designer, desktop publisher, digital pre-press operator, art director, animator, multimedia designer, and creative director.

A.A. Degree

Major requirements: TA&G 101, 110, 120, 125, 220, 235, 240, 250, 400. Total: 34 semester units.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

Transfer Program

Some career opportunities in the graphic arts require a B.A. degree or advanced training from selected schools. Students can fulfill lower division General Education and major requirements at College of San Mateo. 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: 34 semester units.

Technical Art and Graphics: Industrial Design

Career Opportunities: Industrial designers secure employment with 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

Most career opportunities in Industrial Design require a B.A. or advanced degree. Students can fulfill lower division General Education and major requirements at College of San Mateo. 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 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 110, 125, 220; DRAF 122. Total: 17 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.

Technical Preparation - TECH PREP

Career opportunities: TECH PREP programs link the last two years of high school and two years of community college study. TECH PREP offers students strong academic courses and career basics within broad career clusters, such as Health Careers or Business. Hands-on technical skills are incorporated into English, mathematics, and other high school subjects. All TECH PREP classes meet high school graduation and community college entrance requirements.

Tech Prep articulation agreements have been approved by local high schools, the San Mateo County Regional Occupational Program (ROP), and College of San Mateo

in the following occupational areas: Accounting, Business Information Processing, Drafting Technology, Electronics Technology, and Manufacturing Technology. Other approved articulation agreements exist at Canada College and Skyline College.

The articulation will be honored at any of the three colleges in the San Mateo County Community College District. Dependent upon the specific Tech Prep program, students may be granted from one to six college units with a GPA of 2.0 or better in the approved technical program, or may be granted advanced placement credit by waiver of specific CSM courses.

TECH PREP instructors and counselors believe that every student can learn the skills required for success in a competitive world. High school and community college staff work together to help students learn academic and applied skills in real-world ways. They find mentors and internships for students' on-the-job learning in what they are being taught on campus. They help students locate and secure career jobs.

TECH PREP students master the skills necessary for success in college and in high-skill, wage careers. They learn how to develop good work habits, how to work on teams, and how to be effective in real work settings. They visit and work at local companies. Some enter career employment after completing community college study; others transfer to four-year colleges and universities. Many work at good jobs while continuing their education.

TECH PREP employers tell schools and colleges what jobs are available and what skills these jobs require. They help students learn these skills on campus and in the workplace. They mentor students, coaching and encouraging them for success and to remain in college. They provide internships and other training experiences while students are in school and hire TECH PREP graduates into entry-level jobs with real futures.

TECH PREP communities have well-educated workforces, high employment rates, and strong local economies. Their young people find good jobs after high school and move easily into advanced college courses because of the skills they learned as teenagers. Relocating companies are attracted by the good schools and colleges in these communities and are impressed by the skills of local workers.

Welding Technology

Associate in Science Degree with a Major in Welding Technology; Transfer Program; Certificate Programs

Recommended high school preparation: elementary algebra, physics, mechanical drawing, drafting, keyboarding, or word processing.

Career opportunities: The welding technician is a skilled tradesperson with a thorough knowledge of intricate welding processes, equipment, drafting mathematics, and code requirements. CSM's nationally recognized program offers training by College and industry professionals in modern, well-equipped shops. Students receive a broad base of instruction covering all aspects of the profession and are immediately employable upon completion of their A.S. degree in Welding Technology.

A good welder is part electrician, metallurgist, chemist, physicist, and design and mechanical engineer. Specific career opportunities include welder, technician, engineer, sales/service person, and manufacturing, service, maintenance or construction operations supervisor. The need for qualified welding engineers is on the rise and, once employed, the opportunities for advancement are unlimited.

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

Many high paying career opportunities in Welding require a B.A. or advanced degree. Students can fulfill lower division General Education and major requirements at College of San Mateo. 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

Career opportunities: Welding technicians supervise, inspect, and help develop and determine applications for a wide variety of welding processes. Some welding technicians work in research facilities to assist engineers in testing and evaluating newly developed welding equipment, metals and alloys. Employment is available with virtually every industry, including aircraft, appliances, automobiles, food processing, guided missiles, nuclear energy, radio, railroads, shipbuilding, structural engineering, and television.

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

Career opportunities: Arc welders, combination welders and metal fabricators are among the highly skilled specialties in this field. Positions requiring a relatively lower degree of skill include welding machine tender/feeder and production line welder. Welders are employed with the construction industry, shipbuilders and shipyards, oil companies, the military, and aircraft, automobile, electronics and metal products manufacturers. Specific career opportunities include assembly worker, auto body worker, machine tool operator, sheet metal worker, and tool and die maker.

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.

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).

Career opportunities: A degree in Women's Studies leads to career opportunities with social service agencies, schools, universities, and health centers. In addition, many private and government agencies employ individuals who have expertise in family planning and women's issues. This degree is particularly valuable to students who continue their education in law or medical school specialties.

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

Center for the American Musical
 Custom Sewing and Alterations
 Drama
 Early Childhood Education
 English Institute
 Fashion/Consumer Arts
 Interior Design
 JTPA (Job Training and Partnership Act) Program
 Paralegal
 Radiologic Technology
 Small Business Development and Job Training Center (Office Automation and Small Business Development)
 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.)
 Fashion Merchandising
 Fiber Optics
 Gallery Management
 Home Economics
 Hospitality Administration
 Hotel Operations
 Image Consulting
 Japanese Automotive Technology
 Paralegal
 Public Transit Management
 Recreation Education
 Respiratory Therapy
 Surgical Technology
 Telecommunications Technology
 Toyota Technical Education Network

Athletics

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

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; BUSW 105 or equivalent; eligibility for ENGL 800.* Study of the accounting cycle for service and merchandising businesses. Preparation of journals, ledgers and financial statements using manual work papers and accounting software. (CSU)

103 Ten-Key Skills (0.5) (*Open Entry/Open Exit*) *Total of twenty-four lab hours per semester.* Self-paced course covering development of speed and accuracy using a ten-key calculator and the ten-key pad on a computer keyboard. (CSU)

121 Financial Accounting (5) *Five lecture hours plus two lab hours by arrangement per week. Prerequisite: BUSW 105 or equivalent. Recommended Preparation: ACTG 100; BUSW 415 or equivalent; 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; BUSW 105 or equivalent. Recommended Preparation: BUSW 415 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 Managing the Accounting System (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 all accounting functions including accounts receivable, accounts payable, inventory, payroll, and tax reporting; cash flow and cash budgeting; internal control procedures to prevent fraud and embezzlement; accounting software selection, support and security. (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.

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 (CP1) Introduction to the Criminal Justice System (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. Includes POST Basic Learning Domains. Course completion with a grade of C or higher is required for POST Basic Transitional Program. (This course is part of the core curriculum.) (CSU/UC) (CAN AJ 2)

102 (CP4) Principles and Procedures of the Justice System (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Legal processes from pre-arrest, arrest through trial and sentencing; federal and state court jurisdiction; procedures from initial entry to final disposition. History of case law in the development of such legal procedures as stop and frisk, arrest, search and seizure, line-ups; current case law relating to the 4th, 5th, 6th, 8th, and 14th Amendments; legal issues relating to custody. Includes POST Basic Learning Domains. Course completion with a grade of C or higher is required for POST Basic Transitional Program. (This course is part of the core curriculum.) (CSU/UC)

104 (CP2) Introduction to 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. Includes POST Basic Learning Domains. Course completion with a grade of C or higher is required for POST Basic Transitional Program. (This course is part of the core curriculum.) (CSU/UC) (CAN AJ 4)

105 (CP3) Comprehensive Criminal Law (3) *Three lecture hours per week. Recommended Preparations: ADMJ 104 and ENGL 800 or 825, or higher-level English.* Covers California Code sections relegated to police officers for enforcement and the methodology for successful prosecution of apprehended suspects relative to California Codes (Penal, W&I, B&P, H&S). Includes POST Basic Learning Domains. Course completion with a grade of C or higher is required for POST Basic Transitional Program. (CSU)

106 (CP6) 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. Includes POST Basic Learning Domains. Course completion with a grade of C or higher is required for POST Basic Transitional Program. (This course is part of the core curriculum.) (CSU)

108 (CP7) Police Community Relations/Multi-Cultural Issues (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Study of relationships between police agencies and the public. Analysis of problems regarding policing in today's multicultural communities and development of positive working relationships involving law enforcement personnel as community problem-solvers. Includes POST Basic Learning Domains. Course completion with a grade of C or higher is required for POST Basic Transitional Program. (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. Includes POST Basic Learning Domains. (CSU)

145 Basic Police Academy (20) *Seventeen and one-half lecture and twenty-two and one-half lab hours per week for twenty weeks. Prerequisites: POST approved pre-entry English skills assessment exam provided by the Academy; medical clearance by a licensed physician; and criminal history clearance pursuant to Penal Code.* This 800 hour course of training is certified by the California Commission on Peace Officers Standards and Training to meet the statutory basic training requirements. The course requires a significant commitment of time and dedication and both academic and

physical skills in addition to extra motivation to endure the intensive agenda. Level 2 reading and writing. Students will be required to provide academy uniform, leather gear/equipment, physical training clothing, firearm, and abstract of driver's license. (CSU)

153 (CP8) Special Law Enforcement Issues (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 patrol. Includes special issues regarding ethics, information systems, persons with disabilities, crisis intervention, and gangs. Includes POST Basic Learning Domains. Course completion with a grade of C or higher is required for POST Basic Transitional Program. (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)

710 (CP5) Police Report Writing (3.0) *Three lecture hours per week. Recommended Preparation: ENGL 800 or 825 or higher level English.* Crime incident note taking, observation, interviewing and report writing techniques, utilizing state-mandated scenario exercises to prepare data and provide courtroom information for prosecution purposes. Includes POST Basic Learning Domains.

715 (CP9) Emergency Medical Services for Law Enforcement (1.5) *Total of twenty-seven lecture and thirteen lab hours. Course completion with a grade of C or higher is required for POST Basic Transitional Program.* Covers skills and knowledge needed to provide first aid treatment and cardio-pulmonary resuscitation in situations likely to be encountered by patrol officers. Includes POST Basic Learning

Domains. Course completion with a grade of C or higher is required for POST Basic Transitional Program.

755 Advanced Officers Course (.5-2.5) *Twelve to forty lecture hours per semester by arrangement. Prerequisite: satisfactory completion of POST (Peace Officer Standards and Training) approved Basic or Level I Reserve Police Officer courses with proof of affiliation with a law enforcement agency. 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 and allowed by the College.)*

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 Level II Reserve Officers.*

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Administration of Justice–Public Safety Training Courses (AJPS)

In-service training courses offered for police personnel through the Public Safety Training Consortium. Course numbers will be assigned as needed, and Consortium titles will be used. The curriculum for each course offered adheres to POST (Peace Officers Standards and Training) and Title V requirements.

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. 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 plus one lab hour by arrangement 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. 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 plus one lab hour by arrangement 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 plus one lab hour by arrangement 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 plus one lab hour by arrangement 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 plus one lab hour by arrangement 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 plus one lab hour by arrangement 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 plus one lab hour by arrangement 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 plus one lab hour by arrangement 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)

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

Note: To be transferable to UC, American Sign Language courses must be taken for letter grade.

111 Elementary American Sign Language I (3) (*Credit/No Credit or letter grade option.*) *Three lecture hours plus one lab hour by arrangement per week.* Basic course in American Sign Language taught as a second language using dialogue drills, commands, and creative ideas. (CSU/UC)

112 Elementary American Sign Language II (3) (*Credit/No Credit or letter grade option.*) *Three lecture hours plus one lab hour by arrangement 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)

120 Race, Ethnicity, Gender and Class

(3) (Credit/No Credit or letter grade option.) Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800. Introduction to race, ethnicity, gender, and class relations between African-, Anglo-, Arab-, Asian-, Native-, and Hispanic-American cultures. (CSU)

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)

350 Introduction to Archaeology (3)

(Telecourse) (Credit/No Credit or letter grade option.) Recommended Preparation: ANTH 110 and eligibility for ENGL 800. Anthropological study of four million years of human biological evolution and the archaeological study of sociocultural adaptation. (CSU)

360 Indians of North America (3)

(Credit/No Credit or letter grade option.) Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800. Introductory course on the anthropological study of the history, traditions, and contemporary circumstances of Native American nations and tribes. (CSU/UC)

370 Olmec, Maya, and Aztec People and Cultures of Mexico and Central America

(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 over-current 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; mitiga-

tion 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.

711 Hazardous Materials Apprenticeship XI (1.5) (*Credit/No Credit grading.*) *Total of twenty-four lecture and sixteen lab hours.* Rescue Systems I. Comprehensive course to prepare students to conduct heavy rescue operations for incidents such as earthquakes, structural collapse, cliff rescue, and other related rescue operations.

712 Hazardous Materials Apprenticeship XII (1.5) (*Credit/No Credit grading.*) *Total of twenty-four lecture and sixteen lab hours.* Rescue Systems II. A continuation of Hazardous Materials XI, this comprehensive course further provides students with a more intensive background to conduct heavy rescue operations for incidents such as earthquakes, structural collapse, cliff rescue, and other related rescue operations.

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 Reproduction. 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 software and then explore dedicated programs such as Imposition 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; prepar-

ing 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.* 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.* 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.

Paramedic Apprenticeship (PARA)

Prerequisite: current employment as a firefighter, sponsorship by employing department, and indenture as an Apprentice in the Paramedic Training Authorities Apprenticeship Training Program.

701 Paramedic Apprenticeship I (1.5)
Total of twenty-four lecture hours.

Prehospital Environment. Roles and responsibilities of the trained paramedic. Covers emergency medical services (EMS) system, medical and legal considerations, emergency medical services communication, extrication, and rescue. Also includes major incident response and stress management/critical incident stress debriefing.

702 Paramedic Apprenticeship II (5.5)
Total of eighty-six lecture and thirty lab hours. Prerequisite: PARA 701 with a grade of C or higher. Preparatory Knowledge and Skills. Medical terminology; general patient assessment and initial management procedures; reporting and presenting patient information; skills protocols; airway and ventilation subjects; and pathophysiology of shock. Includes the following competency sets: assessment and management, associated complications, pharmacology, drug dosage, autonomic nervous system, specific drugs, drug preparation, and the prehospital management of shock.

703 Paramedic Apprenticeship III (1.0)
Total of sixteen lecture and sixteen lab hours. Prerequisite: PARA 702 with a grade of C or higher. Trauma. Covers soft tissue injuries, musculoskeletal system, chest trauma, abdominal trauma, head and spinal cord trauma, multi-system injuries, and burns.

704 Paramedic Apprenticeship IV (5.0)
Total of seventy-six lecture and thirty-two lab hours. Prerequisite: PARA 703 with a grade of C or higher. Medical Emergencies. Covers respiratory system, cardiovascular system, cardiovascular disorders, skills protocols, endocrine system, nervous system and acute abdomen/Genitourinary/Re-

productive systems. Also includes anaphylaxis, toxicology, alcoholism and drug abuse, infectious disease-universal precautions, hepatitis, environmental emergencies, and pediatrics.

705 Paramedic Apprenticeship V (2.5)
Total of thirty-two lecture and twenty-four lab hours. Prerequisite: PARA 704 with a grade of C or higher. Obstetrical, Gynecological, and Neonatal Emergencies. Covers anatomy and physiology of the female reproductive system, normal childbirth, obstetrical emergencies including the pathophysiology, specific patient assessment, associated complications and the prehospital management of obstetrical emergencies. Also includes APGAR scoring and neonatal resuscitation.

706 Paramedic Apprenticeship VI (1.0)
Total of eight lecture and twenty-four lab hours. Prerequisite: PARA 705 with a grade of C or higher. Special Patient Problems. Covers behavioral problems, the pathophysiology/specific patient assessment/associated complications and prehospital management of behavioral emergencies, the use of community resources, geriatric patients, and disabled patients.

707 Paramedic Apprenticeship VII (3.0)
Total of one hundred sixty lab hours. Prerequisite: PARA 706 with a grade of C or higher. Clinical Internship. Provides the student/paramedic apprentice with an opportunity to apply knowledge and skills learned in the preceding courses to patient care. The emphasis of the course is to increase the student's assessment and diagnostic skills in a clinical setting under the supervision of ER personnel.

708 Paramedic Apprenticeship VIII (10.0)
Total of four hundred eighty lab hours. Prerequisite: PARA 707 with a grade of C or higher. Paramedic Apprenticeship Field Internship. Provides an in-depth opportunity for the student/paramedic apprentice to apply skills and techniques that are necessary for a paramedic. Students complete a field internship in a designated mobile intensive care unit under the direction of a certified paramedic or mobile intensive care nurse.

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 three 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 three lab hours per week. Mathematics, science, and mechanics applying to plumbing.

703 Plumbing Apprenticeship III (3.5)
Three lecture and three lab hours per week. Plumbing codes and water supply systems.

704 Plumbing Apprenticeship IV (3.5)
Three lecture and three lab hours per week. Introduction to drawing and plumbing fixtures.

705 Plumbing Apprenticeship V (3.5)
Three lecture and three lab hours per week. Advanced plumbing and piping layout, pipe fixtures and supports, and drainage.

706 Plumbing Apprenticeship VI (3.5)
Three lecture and three lab hours per week. Aspects of plumbing service work.

707 Plumbing Apprenticeship VII (3.5)
Three lecture and three lab hours per week. Cutting; gas and arc welding.

708 Plumbing Apprenticeship VIII (3.5)
Three lecture and three lab hours per week. Hydronic and solar heating.

709 Plumbing Apprenticeship IX (3.5)
Three lecture and three lab hours per week. Further instruction in drawing and plan reading.

710 Plumbing Apprenticeship X (3.5)
Three lecture and three 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 three 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 three lab hours per week. Mathematics and pipe measurements.

723 Steamfitter, Pipefitter Apprenticeship III (3.5) *Three lecture and three lab hours per week.* Oxyacetylene cutting and burning; basic shielded metal arc welding.

724 Steamfitter, Pipefitter Apprenticeship IV (3.5) *Three lecture and three lab hours per week.* Drawing interpretation.

725 Steamfitter, Pipefitter Apprenticeship V (3.5) *Three lecture and three lab hours per week.* Rigging and signaling, pipe materials, and basic science.

726 Steamfitter, Pipefitter Apprenticeship VI (3.5) *Three lecture and three lab hours per week.* Pumps and steam systems.

727 Steamfitter, Pipefitter Apprenticeship VII (3.5) *Three lecture and three lab hours per week.* Introduction to industrial pipe fitting and hydronic heating systems.

728 Steamfitter, Pipefitter Apprenticeship VIII (3.5) *Three lecture and three lab hours per week.* Pipe drafting and blueprint reading.

729 Steamfitter, Pipefitter Apprenticeship IX (3.5) *Three lecture and three lab hours per week.* Advanced welding.

730 Steamfitter, Pipefitter Apprenticeship X (3.5) *Three lecture and three 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 three lab hours per week.* Basic refrigeration.

742 Refrigeration & Air Conditioning Apprenticeship II (3.5) *Three lecture and three lab hours per week.* Basic electricity.

743 Refrigeration & Air Conditioning Apprenticeship III (3.5) *Three lecture and three lab hours per week.* Refrigerant controls.

744 Refrigeration & Air Conditioning Apprenticeship IV (3.5) *Three lecture and three lab hours per week.* Basic and pneumatic controls.

745 Refrigeration & Air Conditioning Apprenticeship V (3.5) *Three lecture and three lab hours per week.* Brazing, piping, and hydronics.

746 Refrigeration & Air Conditioning Apprenticeship VI (3.5) *Three lecture and three lab hours per week.* Advanced electricity.

747 Refrigeration & Air Conditioning Apprenticeship VII (3.5) *Three lecture and three lab hours per week.* Electrical controls and wiring diagrams.

748 Refrigeration & Air Conditioning Apprenticeship VIII (3.5) *Three lecture and three lab hours per week.* Heat pumps.

749 Refrigeration & Air Conditioning Apprenticeship IX (3.5) *Three lecture and three lab hours per week.* Supermarket installations and refrigerator box load.

750 Refrigeration & Air Conditioning Apprenticeship X (3.5) *Three lecture and three lab hours per week.* Start-up testing and air balance.

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.

Arabic

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, Arabic courses must be taken for letter grade.

111 Elementary Arabic I (3.0) (*Credit/No Credit or letter grade option.*) *Three lecture hours plus one lab hour by arrangement per week.* Conversation in the language, dictation, reading, and study of the fundamentals of grammar; simple oral and written exercises; and introduction to Arabic culture. (CSU/UC*)

112 Elementary Arabic II (3.0) (*Credit/No Credit or letter grade option.*) *Three lecture hours plus one lab hour by arrangement per week.* *Prerequisite:* ARBC 111 with a grade of C or higher. Continuation of Arabic 111. Conversation in the language, dictation, reading, and fundamentals of grammar; simple oral and written exercises; and introduction to Arabic culture. (CSU/UC*)

680 - 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

801 Conversational Arabic I, Elementary (2.0) (*Credit/No Credit grading.*) *Three lecture hours per week.* A practical course in the Arabic language approached by way of conversation. Intensive drill in the patterns and idioms of daily speech with sufficient grammar to give flexibility to the spoken language. (This course will not fulfill the language requirements at California State Universities or at the University of California.)

802 Conversational Arabic II, Elementary (2.0) (*Credit/No Credit grading.*) *Three lecture hours per week.* *Prerequisite:* ARBC 801 or equivalent with Credit. Continuation of Arabic 801 with further training in spoken Arabic and introduction of Arabic

script. (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.)

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 spatial 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) (*Telecourse*) (*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 ancient Greece 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. Not intended for Art majors. (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 Renaissance, High Renaissance, and Baroque periods (c. 1300-1700). 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 plus two lab hours by arrangement 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 plus two lab hours by arrangement 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 plus two lab hours by arrangement 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 plus two lab hours by arrangement 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 plus two lab hours by arrangement 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 plus two lab hours by arrangement per week. Prerequisite: ART 201 or 202. Recommended Preparation: ART 214 and 301.* Introduction 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 plus two lab hours by arrangement 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*)

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 plus two lab hours by arrangement 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, stabiles 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*)

349 History of Photography (3) *(Credit/No Credit or letter grade option.) Three lecture hours per week.* Survey of photography from inception to present. Emphasizes photography's evolution in relation to historic timeline, cultural attitudes, and its impact on the arts. (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 students 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/UC)

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)

365 Beginning Digital Imaging (4) *Three lecture and three lab hours per week. Prerequisite: ART 351.* Introduction to digital image scanning, editing, and printing using current tools, technologies, and software. Development of a portfolio. Students to provide photographic materials in the form of 35mm slides or black and white/color negatives. Extra supplies required. (CSU)

366 Intermediate Digital Imaging (4.0) *Three lecture and three lab hours per week. Prerequisite: ART 365 with a grade of C or higher.* Intermediate scanning from film and flat art; intermediate editing and printing using the current tools, technologies, and software. Development of a portfolio. (CSU)

367 Digital Imaging Workshop (0.5) *One lecture and two lab hours per week for eight weeks. Prerequisite: ART 365.* Review of scanning, image editing, and available

print technology leading to advanced techniques and theory in a workshop environment. Development of a portfolio. (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 – 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.)

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 inter-dependencies. 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 Natural History of California (4) *Three lecture and three lab/field hours per week.* *Recommended Preparation: eligibility for ENGL 800.* Investigates the functioning of ecosystems, adaptations of organisms to their environment, and natural history of selected organisms. Covers natural ecosystems of California, with a primary focus on the San Francisco Bay Area. Laboratory and field investigations are conducted using the scientific methods. Emphasizes critical thinking skills. Recommended for non-science majors. (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. (Fall only.) (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, People, and Environment (3) *Three lecture hours per week.* *Recommended Preparation: 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, People, and Environment (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. (Fall only.) (CSU/UC*)

150 Introduction to Marine Biology (4) *Three lecture and three lab hours per week with frequent field trips. Recommended Preparation: eligibility for ENGL 800.* Non-technical introduction to the scientific method and critical thinking used in studies of marine biology. Emphasizes natural history of marine forms of the Pacific coast ecosystems—distribution, physiology, behavior—with primary focus on the San Francisco Bay and coastal area. Designed for non-science majors to fulfill the laboratory science transfer requirement. (CSU/UC)

160 Genetics: Principles and Applications (3) *Three lecture hours per week. Prerequisite: high school biology or a college-level biology course. Recommended Preparation: eligibility for ENGL 800.* Integrates the principles of Mendelian and molecular genetics, including current knowledge of gene activities, regulation, and their function in relation to health and disease. Explores methods of genetic engineering with applications relevant to human societies. (Spring only.) (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. (Fall only.) (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)

195 Biology Field Laboratory (1.0) *Three lab hours per week. Prerequisite: completion of or concurrent enrollment in BIOL 102, 140, 145, 180, or 184.* Emphasis on field trips to selected sites with labora-

tory preparation. Covers a wide range of topics including animals, both domestic and wild; natural and human-made ecosystems; forests; habitat disruption; and museums and parks. Laboratory and field investigations conducted using the scientific method. Emphasizes critical thinking skills. Designed for non-science majors to fulfill laboratory science G.E. requirement. (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. (Fall only, alternate years.) (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.* Evalua-

tion 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 micro-organisms, 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 (1-2) (*Credit/No Credit or letter grade option.*) *One to two lecture hours 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. (CSU)

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

100 Video and Audio Aesthetics (1.0) (*Credit/No Credit or letter grade option.*) *Two lecture hours per week for eight weeks.* Examines visual and aural elements—including light, color, sound, motion, framing and many others—and the ways they are used to influence viewers' feelings and responses. (CSU)

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)

112 Life on Television: A Critical View (3.0) (*Credit/No Credit or letter grade option.*) *Three lecture hours per week.* Introduction to the critical study of television. Designed to create more savvy and discerning television viewing. Provides some ideas and tools for analyzing television programs—both entertainment and news/public affairs programs. Examines television in the light of its social and economic setting. (CSU)

120 On-Air Talent for Television and Radio (2) (*Credit/No Credit or letter grade option.*) *One lecture hour and three lab hours per week.* Introduction to basic announcing and communicating techniques

for television and radio talent. Emphasizes format, delivery, and on-camera performance. Includes practice in marking copy, ad-lib, and microphone techniques. (CSU)

131 Basic Audio Operations (3) *Two lecture and three lab hours per week.* Study of the basic practices and procedures in audio operations. The proper use of microphones, audio mixing consoles, digital audio, tape recorders, and other common audio and broadcast equipment, with emphasis on radio combo. Extra supplies may be required. (CSU)

132 Advanced Audio Operations (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 audio production including multitrack digital recording, web-based audio, and audio for multimedia. Advanced students may be selected for on-air and production at KCSM-FM. May be taken three times for a maximum of 9 units. (CSU)

194 Writing for Radio and Television (3) *Three lecture hours per week.* 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)

231 Television Studio Techniques (3) *One lecture hour and six lab hours per week.* 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. Continued activity in television production involving studio equipment, remote equipment, and editing. 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)

242 Advanced Television Production (4) *Two lecture and six lab hours per week. Prerequisite:* BCST 232 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. (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 (.5-4) (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)

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. (Since this course may cover an updated version of the code, it may be taken four times for a maximum of 12 units.)

710 Non-Structural Provisions of the Uniform Building Code (3) Three lecture hours per week. Prerequisite: BLDG 700 or equivalent with a grade of C or higher. Study of the fire and life safety provisions of the Uniform Building Code. (Since this course may cover an updated version of the code, it may be taken four times for a maximum of 12 units.)

720 Electrical Inspection I (3) Three lecture hours per week. Prerequisites: BLDG 700 or equivalent with a grade of C or higher. Recommended Preparation: ELEC 110. Overview of the National Electrical Code. Covers the various aspects of electrical service as applied to building inspection, single-family dwellings, multi-family dwellings, commercial locations, industrial locations, and specialized and hazardous locations. Includes recent electrical code changes, the application of research techniques for inspection, preparation of reports, and code interpretation considerations. (Since this course may cover an updated version of the code, it may be taken four times for a maximum of 12 units.)

725 Electrical Inspection II (3) Three lecture hours per week. Prerequisite: BLDG 720 or equivalent with a grade of C or higher. In-depth study of the sections of the National Electrical Code dealing with multi-family and light commercial applications, with emphasis on grounding, load calculations, and special locations. (Since this course may cover an updated version of the code, it may be taken four times for a maximum of 12 units.)

730 Plumbing Inspection (3) Three lecture hours per week. Prerequisite: BLDG 700 or equivalent with a grade of C or higher. Building regulations governing drainage systems, vents and venting, plumbing, water systems, building sewers, and gas piping. (Since this course may cover an updated version of the code, it may be taken four times for a maximum of 12 units.)

740 Mechanical Code (3) Three lecture hours per week. Prerequisite: BLDG 700 or equivalent with a grade of C or higher. 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. (Since this course may cover an updated version of the code, it may be taken four times for a maximum of 12 units.)

750 Structural Provisions Provision of the Uniform Building Code (3) Three lecture hours per week. Prerequisite: BLDG 700 or equivalent with a grade of C or higher. Study of engineering fundamentals and the structural provisions of the Uniform Building Code. (Since this course may cover an updated version of the code, it may be taken four times for a maximum of 12 units.)

760 Energy Regulations (3) Three lecture hours per week. Prerequisite: BLDG 700 or equivalent with a grade of C or higher. 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. (Since this course may cover an updated version of the code, it may be taken four times for a maximum of 12 units.)

775 Introduction to Residential Dwelling Inspection Technology (3) Three lecture hours per week. Introduction to inspection techniques for residential dwellings and the writing of reports designed to identify material defects in the current condition of systems and components of a typical residential dwelling, such as roof and exterior wall coverings; windows; doors; chimneys; stairs; porches; decks; balconies; floor and foundation support systems; interior wall and ceiling coverings; plumbing, mechanical, and electrical systems; safety devices; and/or conditions that present a hazard to personal safety. (Since this course may cover an updated version of the code, it may be taken four times for a maximum of 12 units.)

790 Blueprint Reading for Construction (3) Three lecture hours per week. Reading, understanding, and interpreting architectural plans for residential and commercial construction. (Since this course may cover an updated version of the code, it may be taken four times for a maximum of 12 units.)

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 prerequi-

sites 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)

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)

133 Machine Calculation (1.5) *Three lecture hours plus two lab hours by arrangement for eight weeks. Prerequisite: BUS. 810 or equivalent or equivalent skill level (as measured by a satisfactory score on Math Placement Test One).* Development of the touch system on both a printing and electronic display calculator. (To increase competency, may be taken twice of a maximum of 3 units.) (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 Managing Your Small Business (.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: BUSW 415 or equivalent; BUS. 115*

or MATH 110 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, and database management. (CSU) (CAN BUS 6)

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)

316 Keyboarding II (3) *Three lecture hours plus two lab hours by arrangement per week. Prerequisite: BUS. 315 or one year of high school keyboarding or equivalent.* Advanced course to increase keyboarding speed and accuracy as well as improve skills in formatting and producing letters, memos, reports, and tabulated material. (To increase competency, may be taken twice for a maximum of 6 units.) (CSU)

317 Micro/Keyboarding: Skillbuilding (1.5) *Three lecture hours plus two lab hours by arrangement for eight weeks. Prerequisite: BUS. 315 or one year of high school keyboarding or equivalent.* Increase keyboard speed and accuracy through the use of an interactive microcomputer skillbuilding program. (To increase competency, may be taken twice for a maximum of 3 units.) (CSU)

318 Micro/Keyboarding: Document Formatting (1.5) *Three lecture hours plus two lab hours by arrangement for eight weeks. Prerequisite: BUS. 315 or one year of high school keyboarding or equivalent.* Improve skills in formatting and producing letters, memos, reports, and tabulated material with speed and accuracy using a word processing program. (To increase competency, may be taken twice for maximum of 3 units.) (CSU)

326 Electronic Filing and Records Management (1.5) *Three lecture hours plus two lab hours by arrangement per week for eight weeks. Recommended Preparation: BUS. 315 or equivalent; eligibility for ENGL 800.* Study of both manual and microcomputer filing methods from creation through maintenance of data records. Covers alphabetic, numeric, geographic, and

subject filing rules. (To increase competency, may be taken twice of a maximum of 3 units.) (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 enroll 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)

114 DOS Fundamentals I (1.5) *Three lecture hours plus two lab hours by arrangement per week for eight weeks. Recommended Preparation: BUSW 105 or equivalent; eligibility for ENGL 800.* Introduction to purpose and use of DOS (disk operating system). Includes DOS commands to manage files and disks; file management including creating, naming, copying, and deleting files; disk management including creating subdirectories; configuring the operating system; redirecting command input and output; use of DOS text editors; and basic batch file programming. (To increase competency, may be taken twice for a maximum of 3 units.) (CSU)

115 DOS Fundamentals II (1.5) *Three lecture hours plus two lab hours by arrangement per week for eight weeks. Prerequisite: BUSD 114 or equivalent.* Reviews DOS Fundamentals I techniques to control business application programs and to organize subdirectory structure for hard disk management. Examines disk editing techniques using debug and hex editors to correct operating system problems. In-depth look at DOS operators and interactors with files. (To in-

crease competency, may be taken twice for a maximum of 3 units.) (CSU)

502 Introduction to Local Area Networks (1.5) *Three lecture hours plus two lab hours by arrangement per week for eight weeks. Prerequisite: knowledge of DOS.* Exploration of networking computers to share common business software and resources. Includes hands-on experience in maintaining connected systems and software. (To increase competency, may be taken twice for a maximum of 3 units.) (CSU)

504 LAN Application Software Installation (1.5) *Three lecture hours plus two lab hours by arrangement per week for eight weeks. Prerequisite: BUSD 502 or CIS 150 or equivalent.* Examines the selection and installation of LAN-based business application software. Includes licensing, file and record locking, use of shared printers, security, and integration of various software into an efficient network environment. (To increase competency, may be taken twice for a maximum of 3 units.) (CSU)

511 LAN Management Using Novell NetWare 3.x (3) *Three lecture hours plus two lab hours by arrangement per week. Prerequisite: BUSD 502 or CIS 150.* An in-depth, hands-on course covering the duties associated with LAN management using Novell NetWare 3.x. Includes NetWare resources, user support, security, printing, managing a server, and preparation for the Novell certification exam. (To increase competency, may be taken twice for a maximum of 6 units.) (CSU)

512 LAN Management Using Novell NetWare 4.x (3) *(Credit/No Credit or letter grade option) Three lecture hours plus one lab hour by arrangement per week. Prerequisite: BUSD 502 or CIS 150.* In-depth, hands-on course covering the basic tasks associated with managing a LAN using Novell NetWare 4.x. Includes Novell Directory Services, connecting workstations to network; planning and implementing network file system; setting up printing, users and applications; designing and implementing system security; installing and managing file server and backing up network. Prepares students for the Novell certification exam. (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)

105 Introduction to Microcomputers (1.5) *(Credit/No Credit grading.) Three lecture hours plus two lab hours by arrangement per week for eight weeks. Prerequisite: BUS. 315 or equivalent. Recommended Preparation: eligibility for ENGL 800.* Introduction to microcomputers. Covers equipment, operating systems, and Windows software applications including word processing, spreadsheet, and business presentations. (To increase competency, may be taken twice for a maximum of 3 units.) (CSU)

114 Windows Fundamentals I (1.5) *Three lecture hours plus two lab hours by arrangement per week for eight weeks. Prerequisite: BUSW 105 or equivalent. Recommended Preparation: eligibility for ENGL 800.* Introduction to Microsoft Windows. Includes hardware needs, relationship to DOS, GUI use and procedures, program navigation, desktop concepts and organization, accessory applications, file management, and OLE. (To increase competency, may be taken twice for a maximum of 3 units.) (CSU)

115 Windows Fundamentals II (1.5) *Three lecture hours plus two lab hours by arrangement per week for eight weeks. Prerequisite: BUSW 114 or equivalent.* Continuation of BUSW 114. Includes how to install and customize Windows; install software application programs; configure devices, drivers, and memory; set up fonts and printers; access and use DOS applications; establish links between software applications; and use telecommunications, macros, and multimedia. (To increase competency, may be taken twice for a maximum of 3 units.) (CSU)

124 Windows '95 Installation and Support I (1.5) *Three lecture hours plus two lab hours by arrangement per week for eight weeks. Prerequisite: BUSW 114 or equivalent and BUSD 502 or CIS 150 or equivalent.* Introduction to installation and support for Microsoft Windows '95. Includes program installation, configuration, administration and support in a network environment. Prepares students for part of the Microsoft Windows '95 certification exam. (To increase competency, may be taken twice for a maximum of 3 units.) (CSU)

125 Windows '95 Installation and Support II (1.5) *Three lecture hours plus two lab hours by arrangement per week for eight weeks. Prerequisite: BUSW 114 or equivalent and BUSD 502 or CIS 150 or*

equivalent. Concepts of installation and support for Microsoft Windows '95. Includes setup and configuration of communication tools, Windows '95 architecture, application support and system configuration. Prepares students for part of the Microsoft Windows '95 certification exam. (To increase competency, may be taken twice for a maximum of 3 units.) (CSU)

204 Word Processing I Using WordPerfect for Windows (1.5) *Three lecture hours plus two lab hours by arrangement per week for eight weeks. Prerequisite: BUS. 315 or equivalent. Recommended Preparation: eligibility for ENGL 800.* Introduction to WordPerfect for Windows software. Includes Windows orientation; overview of document formats; preparation (creating, formatting, editing, saving, and printing) of both single- and multi-page documents; outlines; tables of content; tables; multiple windows; and file management. (To increase competency, may be taken twice for a maximum of 3 units.) (CSU)

205 Word Processing II Using WordPerfect for Windows (1.5) *Three lecture hours plus two lab hours by arrangement per week for eight weeks. Prerequisite: BUSW 204 or equivalent.* Continuation of BUSW 204. Includes graphics, columns, templates, macros, styles, merge (letters/labels/sorting), forms, and software linking. (To increase competency, may be taken twice for a maximum of 3 units.) (CSU)

214 Word Processing I Using WORD for Windows (1.5) *Three lecture hours plus two lab hours by arrangement per week for eight weeks. Prerequisite: BUS. 315 or equivalent. Recommended Preparation: eligibility for ENGL 800.* Introduction to WORD for Windows software. Includes overview of document formats; preparation (creating, formatting, editing, saving, and printing) of both single- and multi-page documents; outlines; tables of content; tables; multiple windows; and file management. (To increase competency, may be taken twice for a maximum of 3 units.) (CSU)

215 Word Processing II Using WORD for Windows (1.5) *Three lecture hours plus two lab hours by arrangement per week for eight weeks. Prerequisite: BUSW 214 or equivalent.* Continuation of BUSW 214. Includes graphics, charts, columns, templates, macros, mail-merge, labels, sorting, forms, and software linking. (To increase competency, may be taken twice for a maximum of 3 units.) (CSU)

313 Desktop Publishing Using WordPerfect for Windows (1.5) *Three lecture hours plus two lab hours by arrangement per week for eight weeks. Prerequisite: BUSW 205 or equivalent.* Exploration of desktop publishing terminology, designs, and software capabilities and features for the purpose of planning and creating documents such as flyers, newsletters, brochures, forms, and correspondence. (To increase competency, may be taken twice for a maximum of 3 units.) (CSU)

323 Desktop Publishing Using WORD for Windows (1.5) *Three lecture hours plus two lab hours by arrangement per week for eight weeks. Prerequisite: BUSW 214 or equivalent.* Exploration of desktop publishing terminology, designs, and software capabilities and features for planning and creating documents such as flyers, newsletters, brochures, forms, and correspondence. (To increase competency, may be taken twice for a maximum of 3 units.) (CSU)

383 Business Presentations for Windows (1.5) *Three lecture hours plus two lab hours by arrangement per week for eight weeks. Prerequisite: BUSW 214 or equivalent.* Examines the components of effective business presentations and capabilities and features of business presentation software for the purpose of planning and creating a complete presentation of integrated text and graphics in a slide format. (To increase competency, may be taken twice for a maximum of 3 units.) (CSU)

384 Business Multimedia for Windows (1.5) *Three lecture hours plus two lab hours by arrangement per week for eight weeks. Prerequisite: BUSW 114 or equivalent.* Explores Microsoft multimedia environment. Includes multimedia concepts; hardware and software for the PC; use of multimedia tools; and applications to create business documents. (To increase competency, may be taken twice for a maximum of 3 units.) (CSU)

405 Spreadsheet I Using Lotus for Windows (1.5) *Three lecture hours plus two lab hours by arrangement per week for eight weeks. Prerequisite: BUSW 105 or equivalent. Recommended Preparation: eligibility for ENGL 800.* Creation and use of spreadsheets. Includes spreadsheet design, menu systems, basic formulas and functions, relative and absolute addressing, formatting, printing, and graphing. (To increase competency, may be taken twice for a maximum of 3 units.) (CSU)

406 Spreadsheet II Using Lotus for Windows (1.5) *Three lecture hours plus two lab hours by arrangement per week for eight weeks. Prerequisite: BUSW 405 or equivalent.* Advanced spreadsheet functions. Includes design and optimization of large and complex spreadsheets, advanced formulas and functions, database features, macros, and linking of spreadsheets with other software programs. (CSU)

407 Spreadsheet III Using Lotus for Windows (1.5) *Three lecture hours plus two lab hours by arrangement per week for eight weeks. Prerequisite: BUSW 406 or equivalent.* Advanced macro functions. Includes writing and using macros to automate spreadsheet keystrokes; naming and invoking techniques; and preparing macro menus. (CSU)

415 Spreadsheet I Using Excel for Windows (1.5) *Three lecture hours plus two lab hours by arrangement per week for eight weeks. Prerequisite: BUSW 105 or equivalent. Recommended Preparation: eligibility for ENGL 800.* Creation and use of spreadsheets. Includes spreadsheet design, use of menu systems, basic formulas and functions, relative and absolute addressing, formatting, printing, and graphing. (To increase competency, may be taken twice for a maximum of 3 units.) (CSU)

416 Spreadsheet II Using Excel for Windows (1.5) *Three lecture hours plus two lab hours by arrangement per week for eight weeks. Prerequisite: BUSW 415 or equivalent.* Advanced spreadsheet functions. Includes design and optimization of large and complex spreadsheets, advanced formulas and functions, database features, macros, and linking of spreadsheets with other software programs. (CSU)

417 Spreadsheet III Using Excel for Windows (1.5) *Three lecture hours plus two lab hours by arrangement per week for eight weeks. Prerequisite: BUSD 416 or equivalent.* Advanced macro functions. Includes writing and using macros to automate spreadsheet keystrokes; naming and invoking techniques; and preparing macro menus. (CSU)

464 Database Management Fundamentals Using Access for Windows (3) *Three lecture hours plus two lab hours by arrangement per week. Prerequisite: BUSW 114 or equivalent.* Introduction to database design, use and applications for business to edit data, search for specific information, create forms, and print reports. (To increase competency, may be taken twice for a maximum of 6 units.) (CSU)

530 Introduction to Internet (1.5) *Two lecture hours plus two lab hours by arrangement for eight weeks. Prerequisite: BUSW 105 or equivalent Windows software experience. Recommended Preparation: eligibility for ENGL 800.* Exploration of Internet features (BBSs, E-mail, File Transfer Protocol, and World Wide Web); Internet tools (web browser interfaces, search engines, IRC, Chat, and HTML); and Internet activities (telecommuting, marketing, product updating, web publishing and general support). (To increase competency, may be taken twice for a maximum of 3 units.) (CSU)

534 HTML (Hypertext Markup Language) (3.0) *Three lecture hours plus two lab hours by arrangement per week for eight weeks. Prerequisite: BUSW 530 or equivalent.* Explores creating and maintaining Web pages for Internet and Intranet; using HTML source code; creating file structures; using FTP to upload files. Examines page features such as design, use of tables, color codes, applets, fonts, extensions, hyperlinks, image maps, and graphics. (CSU)

591 Integrated Software Suites (1.5) *Three lecture hours plus two lab hours by arrangement for eight weeks. Prerequisites: BUSW 105 or equivalent and BUSW 114 or equivalent; BUSW 115 or equivalent and any BUSW Level II applications course or equivalent.* Introduction to the concepts and uses of integrated software suites. Covers both individual and networked peer-to-peer utilization of suite software for information creation and management. Suite software includes word processing, spreadsheet, business presentation, personal information manager (document transfer/calendaring/scheduling), and e-mail. (To increase competency, may be taken twice for maximum of 3 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.

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 Career Advantage (2) *(Telecourse.) (Credit/No Credit grading)* 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.* 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.* 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.* 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)

142 Advanced Peer Counseling (3) *Three lecture hours per week. Prerequisite: CRER 140 with a grade of C or higher.* An in-depth study of those aspects of counseling theory and practice that are applicable to peer counseling placements where the peer counselor is the primary provider of service and requires advanced problem solving and intervention skills. Lecture, discussion, and role play are used to teach peer counseling strategies useful in a wide range of circumstances and situations. Topics include grief and loss, group counseling, conflict resolution, suicide prevention, depression, drug and alcohol abuse, and mental illness. (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 preparing for college through skill assessment and educational planning. (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*)

101 Survey of Chemistry Laboratory (1) *Three lab hours per week. Prerequisite: completion of or concurrent enrollment in Chemistry 100. Recommended Preparation: one semester of high school algebra or equivalent.* An optional chemistry laboratory course to be taken concurrently with or following Chemistry 100. Designed for non-science majors with no previous experience in general college chemistry. Possible field trips. (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 or 224.* 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 210 or 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 Analytical Chemistry (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. (Spring only.) 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.

Note: To be transferable to UC, Chinese courses must be taken for letter grade.

111 Elementary Chinese I (3) *(Credit/No Credit or letter grade option.) 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) *(Credit/No Credit or letter grade option.) 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) *(Credit/No Credit or letter grade option.) 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) *(Credit/No Credit or letter grade option.) 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) *(Credit/No Credit or letter grade option.) 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) *(Credit/No Credit or letter grade option.) 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)

134 Basic Chinese Writing Skills Online (3.0) *(Credit/No Credit or letter grade option.) (Online Course) Prerequisite: CHIN 122 or equivalent with a grade of C or higher.* Advanced course in Mandarin designed to introduce basic Chinese writing skills. Provides a forum to improve comprehension, vocabulary, and grammar while learning the basic skills of writing. Principal means of communication between students and teacher shall be by way of the World Wide Web. (CSU)

801 Conversational Chinese I, Elementary (2.0) *(Credit/No Credit grading.) Three lecture hours per week.* Beginning conversational Mandarin Chinese with extensive oral training. Emphasizes practical vocabulary, pronunciation, and idiomatic usage, with sufficient grammar to give flexibility to the spoken language. The phonetic system Pinyin is used to represent the sounds in Mandarin. Designed for students who wish to acquire basic skills of spoken Mandarin Chinese. (This course will not fulfill the language requirements at California State Universities or at the University of California.)

802 Conversational Chinese II, Elementary (2.0) *(Credit/No Credit grading.) Three lecture hours per week. Prerequisite: CHIN 801 or equivalent with Credit.* Continuation of Chinese 801. Extensive oral training in Mandarin Chinese. Emphasizes further development of practical vocabulary, pronunciation, and idiomatic usage, with sufficient grammar to give flexibility to the spoken language. The phonetic system Pinyin is used to represent the sounds in Mandarin. Designed for students who wish to acquire basic skills of spoken Mandarin Chinese. (This course will not fulfill the

language requirements at California State Universities or at the University of California.)

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.

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 computers and information systems. Includes computer terminology; common operating systems and applications; computer hardware components and their functions; data communications and Internet access issues and options; systems development process; and beginning programming in Visual Basic or HTML. (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 computer program coding, compilation, and execution; problem solving techniques using object-oriented methods and programming in Visual Basic; program testing; 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*)

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.* Introduction to networking

and data communications. Covers Internet and intranets, LANs, WANs, common protocols, networking hardware and topologies, and trends in data communications. (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 or 502 and 530.* 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 and Microsoft certification exams. (CSU)

153 TCP/IP Services (3) (*Credit/No Credit or letter grade option.*) *Three lecture hours per week plus one lab hour per week by arrangement. Prerequisite: CIS 152 with a grade of C or higher.* Study of the TCP/IP (Transmission Control Protocol/Internet Protocol) and common applications including Telnet and FTP (File Transfer Protocol). Diagnosing and troubleshooting TCP/IP environments. Addressing, routing, and tunneling in the IP internetwork. Includes SNMP (Simple Network Management Protocol) and NFS (Network File System) configuration. Prepares students for Novell and Microsoft certification exams.

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 or 502 and 530. 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 or 502 and 530; BUSW 111 or 114 or the equivalent, each with a grade of C or higher. Recommended Preparation: CIS 152.* Advanced course in network man-

agement 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 NT 3 (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 or 502 and 530; BUSW 111/112 or 114/115 or equivalent. 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. Prepares interested students for Microsoft certification exams. (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)

158 NetWare 4 Installation and Configuration (1) (*Credit/No Credit or letter grade option.*) *Total of sixteen lecture hours. Prerequisite: CIS 155.* Installation of the Novell NetWare 4 network operating system, upgrading from prior NetWare versions, installing workstation software, and configuring the system software. Includes network hardware requirements analysis; IPX, TCP/IP, and AppleTalk protocols, printing configuration, and system optimization. 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)

180 Information Technology Consulting and Entrepreneurship (3) (*Credit/No Credit or letter grade option.*) *Three lecture hours per week. Prerequisite: CIS 110, 115/116, or 150 with a grade of C or higher or equivalent.* Exploration of topics related to consulting and bringing a new software or hardware product to market: entrepreneurship, technology product development, seeking venture capital, and understanding the Information Technology industry. Includes how to manage technology-based projects, build timelines, and estimate project costs and resources. Designed for computer professionals who are interested in consulting, developing a new product, or managing a new venture.

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*)

290 Computer Architecture (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.* Examines computer architecture, design, and organization. Includes number systems, data representation, input/output, interrupts and exception handling, paging, memory management, performance, and other relevant issues. Lab assignments and exercises are completed in Assembly language. (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: concurrent 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 Win-

dows 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 utilities. 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)

315 Survey of Contemporary Operating Systems (3) (*Credit/No Credit or letter grade option.*) Three lecture hours plus one lab hour per week. *Prerequisite:* CIS 110 with a grade of C or higher. Comparative survey of current operating systems including the following concepts: memory management, processor management, device management, file management, network management, and concurrent processing. Covers MS DOS, Windows NT, and Unix command sets, as well as Macintosh OS and VAX/VMS. Includes strengths and benefits of each operating system studied.

350 Fundamentals of Data Structure (3) (*Credit/No Credit or letter grade option.*) Three lecture hours per week. *Prerequisite:* CIS 252/253 with a grade of C or higher or equivalent experience. *Corequisite:* concu-

rent enrollment in CIS 351. Uses object-oriented techniques to illustrate a variety of data structures, including arrays, stacks, queues, linked lists, trees, dictionaries, sets, and graphs. Also covers sorting and searching topics, including Big O notation and hash tables. (CSU)

351 Open Computer Lab (1) (*Credit/No Credit grading.*) Three lab hours per week. *Corequisite:* concurrent enrollment in CIS 350. Use of microcomputers to complete lab assignments for CIS 350. (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, 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*)

374 Java Programming Language (3) (*Credit/No Credit or letter grade option.*) Three lecture hours per week. *Prerequisite:* CIS 250 or equivalent "C" coursework. *Corequisite:* CIS 375. Computer programming in the Java language. Includes learning the Java environment, using and creating Java applets, and writing stand-alone applications. Covers the Java environment, object-oriented programming, language basics, classes, interfaces, packages, threads, exceptions, Java and HotJava Class Libraries, and utility class libraries. Access to a computer with Internet capability is highly recommended. (CSU)

375 Open Computer Lab (1) (*Credit/No Credit grading.*) Three lab hours per week. *Corequisite:* concurrent enrollment in CIS 374. Use of microcomputers to complete lab assignments for CIS 374. (CSU)

376 Internet Programming: JavaScript/HTML (1) (*Credit/No Credit or letter grade option.*) Total of twelve lecture and twelve lab hours. *Prerequisite:* CIS 115 with a grade of C or higher. *Recommended Preparation:* familiarity with the Internet and access to a computer with Internet capability are strongly recommended. Study of the object-oriented computer programming language JavaScript. Covers a quick overview of HTML (Hyper Text Markup Language), basic components of JavaScript language, and the client side of JavaScript running on Web browsers. (CSU)

378 Internet Programming: Perl (1) (*Credit/No Credit or letter grade option.*) Total of twelve lecture and twelve lab hours. *Prerequisite:* CIS 115 with a grade of C or higher. *Recommended Preparation:* familiarity with the Internet and access to a computer with Internet capability are strongly recommended. Study of the Perl programming language. Covers the basic components of the language, packages, modules, object classes, standard Perl library, and other supporting topics such as installation and debugging. (CSU)

452 Building Intranets (1.5) (*Credit/No Credit grading.*) Three lecture hours per week plus one lab hour per week by arrangement. *Prerequisite:* CIS 455 or equivalent with a grade of C or higher. Advanced study of intranet and web service concepts and practices. Includes incorporating an intranet on an existing Novell network, multiprotocol router gateways, web servers, FTP services, and troubleshooting IPX/IP gateways.

455 Advanced Network Management with NetWare 4.11 (3) (*Credit/No Credit or letter grade option.*) Three lecture hours per week. *Prerequisite:* BUSD 512 or CIS 155 with a grade of C or higher or the equivalent Novell training. Advanced network administration skills including installing and configuring 32-bit clients, distributed printing, template objects, tuning the NetWare 4.11 network and server, managing complex directory tree structures, and installing the Novell Web Server. Prepares students to manage complex networks with NetWare 3, NetWare 4, and Internet services. Equivalent to Novell courses 525 and 527. Prepares students for Novell CNE certification exams.

458 Advanced Novell Network Design (1.5) (*Credit/No Credit or letter grade option.*) Three lecture hours per week for eight weeks. *Prerequisite:* CIS 155 or 455 with a

grade of C or higher or the equivalent Novell training. *Recommended Preparation: completion of or concurrent enrollment in CIS 158.* Study of NetWare 4 design and implementation strategies for experienced network administrators focusing on wide-area networks. Covers determination of appropriate directory tree structures, partition and replication strategies, and migration and upgrade approaches. Equivalent to Novell course 532. Prepares students for Novell CNE certification exam.

474 Advanced Network Management with Windows NT 4 (3) (*Credit/No Credit or letter grade option.*) Three lecture hours per week. *Prerequisite: CIS 150 and BUSW 114 and 115 with a grade of C or higher or the equivalent. Recommended Preparation: CIS 152.* Covers administration of Windows NT Server 4.0, including installation, management of accounts, disk resources, printers, servers, and backups. This course is the foundation for supporting Microsoft Windows NT 4.0 base networks. Prepares students for Microsoft MCSE certification exams.

476 Microsoft Windows NT Server 4.0 Enterprise Technologies (3) (*Credit/No Credit or letter grade option.*) Three lecture hours plus one lab hour per week. *Prerequisite: CIS 474 with a grade of C or higher or equivalent.* Covers administration of Windows NT Server 4.0 and Enterprise Technologies, including installation, management of accounts, disk resources, printers, servers, and backups. Includes predicting network traffic, isolating problems to specific components in the architecture using Windows NT Server 4.0 tools, tracing system dependencies for devices and services using the Registry and using the Kernel Debugger.

478 Microsoft Exchange Server 5.0 (1.5) (*Credit/No Credit or letter grade option.*) Three lecture hours plus one lab hour per week for eight weeks. *Prerequisite: CIS 474 with a grade of C or higher or equivalent.* Introduction to the core technologies of Microsoft Exchange Server. Prepares students to implement and administer Microsoft Exchange in a single-site or multiple-site environment. Students will also install and configure the Microsoft Outlook desktop information manager client; be given an introduction to the new connectors and protocols in Microsoft Exchange version 5.0; and install Internet Mail Service, Microsoft Mail Connector, and Lotus cc:mail Connector.

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.

640 Cooperative Education/General Workplace Experience (1-3) (*Credit/No Credit or letter grade option.*) *Designed for the student who does not have a job that relates to a specific occupational goal or college major.* Under the direction of a college coordinator, students focus on career awareness and the development of desirable employment habits and attitudes. Each student must establish measurable learning objectives appropriate for his or her job. Students may be eligible for up to three units of credit per semester, and the course may be taken for a total of six units of credit. 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 seven units (of which Cooperative Education may be three of the seven) is mandatory. (CSU)

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 for a total 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 alternate 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 a total of 16 units of credit. 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)

650 Community Involvement Program (.5-3) *(Credit/No Credit or letter grade option.) (Open entry/open exit.)* A self-directed student volunteer program designed to facilitate experiential learning and service to the community. Includes work at a variety of placements including schools, hospitals, recreation programs, day care centers, and various social service agencies. Volunteer activities may include tutoring, reading for the blind, aiding in mental or physical health projects, assisting in community projects, assisting in classroom teaching, and other similar projects. Twenty-four hours of volunteer time required for each .5 unit. May be taken for a total of 6 units of credit. (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 candi-

date 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.* 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 20 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.* 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 Nail Technology (.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, restor-

ative impression materials, and gypsum products. Designed to develop skills necessary for manipulation in both the dental operatory 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. (Fall only.)

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 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 six weeks. Prerequisites: concurrent enrollment in or completion of DENT 716, 721, 731, 735, 740, 751, 763; ENGL 830; SPCH 850.* 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 749.* 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 DXTRR mannikin and patients. Study of radiation, legislation, effects and protection, exposing techniques for the adult, pedodontic, 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 implement, with the assistance of instructors, individual learning programs. (Units do not apply toward AA/AS degree.)

817 Assistive Computer Access (.5-3) *(Credit/No Credit grading.) (Open entry/open exit) One and one-half to nine lab hours per week. Recommended Preparation: touch typing familiarity with the keyboard.* Designed primarily for students with disabilities, this course provides training in the use of computer access technologies that enhance a student's ability to access and use microcomputers. Training in the use of computer access technologies will occur within the context of word processing. No previous computer experience is required.

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 plus one lab hour by arrangement per week. Prerequisite: one semester of college drafting with a grade of C or higher or equivalent.* 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 plus one lab hour by arrangement per week. Recommended Preparation: BUSW 105 or 114; eligibility for ENGL 800.* Basic mechanical drawing with instruction surveying the field of graphic communications. Technical sketching, visualization, descriptive geom-

etry, 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 plus one lab hour by arrangement per week. Prerequisite: one semester of college drafting or equivalent. Recommended Preparation: BUSW 105 or 114.* 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 plus one lab hour by arrangement per week. Prerequisite: DRAF 100 or 121 or equivalent with a grade of C or higher.* 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 plus one lab hour by arrangement per week. Prerequisite: DRAF 122 or equivalent with a grade of C or higher.* Advanced AutoCAD course. Covers advanced applications of AutoCAD including customizing menus and tablets and the use of Autolisp routines. (CSU)

124 Computer-Aided Drafting IV (3) *Two lecture and four lab hours plus one lab hour by arrangement per week. Prerequisite: DRAF 122 or equivalent with a grade of C or higher.* Advanced CAD course covering links between AutoCAD data and third-party software applications such as Microsoft's Word, Excel, and Access. Also includes an Introduction to Mechanical Desktop, Auto-Architect, and Autovision. (CSU)

130 Mechanical Design with Computer-Aided Drafting (CAD) (3) *Two lecture and four lab hours plus one lab hour by arrangement per week. Prerequisite: DRAF 120 and 121 or equivalent with a grade of C or higher.* Preparation of working drawings including detail, assembly drawings and engineering change procedures; threads and fasteners; dimensioning and tolerancing; pictorial projections; intersections and developments. (CSU)

140 Electro/Mechanical Design with Computer-Aided Drafting (CAD) (3) *Two lecture and four lab hours plus one lab*

hour by arrangement per week. Prerequisite: DRAF 120 and 121 or equivalent with a grade of C or higher. Preparation of electro/mechanical drawings including block diagrams, logic diagrams, ANSI Y32.2 symbols, schematics, connection diagrams, printed circuit design and layout, and chassis design and layout. (CSU)

150 Civil, Architectural, Facility Planning with Computer-Aided Drafting (CAD) (3) *Two lecture and four lab hours plus one lab hour by arrangement per week. Prerequisite: DRAF 120 and 121 or equivalent with a grade of C or higher.* Advanced drafting/CAD course for the civil engineering and architectural fields. Includes surveying; contour maps; plans and profiles; plot plans; architectural plans and details; and commercial plant layout. (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.)

Earth Systems

100 Introduction to Earth Systems (3.0) *Two lecture and three lab hours per week. Recommended Preparation: eligibility for ENGL 800 and MATH 110.* Introduction to maps, the Internet as resource, global positioning systems (GPS), remote sensing, image file formats, and geographic information systems (GIS). Extra supplies may be required. (CSU)

140 Visual Representation of Data (3.0) *Two lecture and three lab hours per week. Recommended Preparation: ESYS 100; eligibility for ENGL 800 and MATH 110.* Focus on location-based attributes; types of graphical data; maps as instruments of communication; the globe and its plane projections as maps of the earth; analysis of earth images; measurement of political subdivisions. (CSU)

150 Global Positioning Systems (GPS), Geographic Information System (GIS) and Image Processing System (3.0) *Two lecture and three lab hours per week. Recommended Preparation: eligibility for*

ENGL 800 and MATH 110. Concepts of and application software used in global positioning systems (GPS), geographic information systems (GIS), and image processing. Includes one or more of the most commonly used applications in these areas, such as ARC View, NIH Image, or Trimble Pathfinder, along with image processing applications. (CSU)

680 - 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

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)

201 D.C. Electronics (3) *Two lecture and three lab hours plus one lab hour by arrangement 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 plus one lab hour by arrangement 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 plus one lab hour by arrangement per week. Prerequisite: BUSD 114/115; CIS 110; ELEC 110 or their equivalent, all with a grade of C or higher. Corequisite: completion of or concurrent enrollment in BUSW 114 or its 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 plus one lab hour by arrangement per week. Prerequisite: BUSW 114; ELEC 215 or their equivalent, both 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 plus one lab hour by arrangement 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 plus one lab hour by arrangement per week. Prerequisite: CIS 157, 158 or 474; 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/AC Circuits (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 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, and inductance, when DC and/or AC 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 ELEC 302.* In-depth study of algebra, trigonometry, logarithms, and graphing, as applied to amplifier, oscillator, and microwave circuits. (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, registers, memories, data transmission systems, and A-to-D and D-to-A conversions. (CSU)

275 Active 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 DC and/or AC voltage is applied to various combinations of 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: completion of or 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 multi-stage 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)

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; ELEC 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 monolithic 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 plus one lab hour by arrangement 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 plus one lab hour by arrangement 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 130; 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 assign-

ments 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 and Literature

(Also see *Film, Reading, and Speech Communication*.)

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 communication. 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 400	English 841, 842, 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, 130, or 140	English 875
English 400	Speech 801
Speech 100, 111, 112, 120, 140, 150, 170	Speech 844

Note that English 100 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. English 801 or 400 is the prerequisite for English 800, except for students who placed in English 800 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, 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). Recommended Preparation: Reading courses at the 400 level are designed for students enrolled in ENGL 100 or higher level courses. (All ENGL 100 students who re-*

ceived 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)

101 English Practicum (1) (*Credit/No Credit grading.*) Two lecture hours per week. Corequisite: concurrent enrollment in ENGL 100. Combined with English 100, English 101 provides extensive practice in sentence structure and grammar as well as a review of paragraph organization and development. (CSU)

110 Composition, Literature, and Critical Thinking (3) Three lecture hours per week. Prerequisite: ENGL 100 with a grade of C or higher. Introduction to the major imaginative genres of poetry, drama, and fiction. Students write 8,000 to 10,000 words in expository essays and other kinds of assignments employing methods of literary analysis and demonstrating skill in critical thinking. (CSU/UC) (CAN ENGL 4)

120 Composition and Poetry (3) Three lecture hours per week. Prerequisite: ENGL 100 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 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 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 100 with a grade of C or higher. 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)

164 Creative Non-Fiction (3.0) (*Credit/No Credit or letter grade option.*) Three lecture hours per week. Prerequisite: ENGL 100 with a grade of C or higher. Recommended Preparation: ENGL 110 and/or ENGL 165. Workshop for students interested in writing non-fiction as art. Discussion of works by established authors; writing and critiquing narrative non-fiction genres, such as memoir, journal, travel literature, biography, history, or sports. (CSU/UC)

165 Advanced Composition (3) Three lecture hours per week. Prerequisite: ENGL 100 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)

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). It is recommended that students enroll concurrently in READ 802 and SPCH 120. 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 or 800.) (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 plus one lab hour by arrangement per week. Prerequisite: ENGL 801 or 400 with a grade of C or higher (or appropriate skill level indicated by the English placement tests and other measures). Recommended Preparation: READ 801 with a grade of C or higher and concurrent enrollment in READ 802 or higher. (All ENGL 800 students who received a grade of C in ENGL 801 or 400 are strongly advised to enroll concurrently in ENGL 850.) 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; READ 800 with a grade of C or higher and concurrent enrollment in READ 801 or higher. 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; READ 801 with a grade of C or higher and concurrent enrollment in READ 802 or higher. 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.)

825 Writing for Careers: Law Enforcement Personnel (3) Three lecture hours per week. Recommended Preparation: eligi-

bility for ENGL 800 or higher; READ 801 with a grade of C or higher and concurrent enrollment in READ 802 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.)

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. 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). 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) *(Credit/No Credit or letter grade option.) Five lecture hours per week. Recommended Preparation: credit in ENGL 842 (or appropriate skill level indicated by placement tests and other measures). 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. (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). 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.; proofreading, 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.)

857 ESL Summer Writing Workshop I (3.5) *(Credit/No Credit or letter grade option.) Six lecture and three lab hours per week for eight weeks. Recommended Preparation: ENGL 841, 842, or 843 (or appropriate skill level indicated by ESL placement tests and other measures).* A maintenance and/or advancement course designed specifically for new and continuing ESL students. Practice in grammatical structures appropriate to these levels and academic writing from a connected series of simple sentences on topics of daily life to expository paragraphs based on class reading material. (To increase competency, may be taken three times for a maximum of 10.5 units.) (Units do not apply toward AA/AS degree.)

858 ESL Summer Writing Workshop II (3.5) *(Credit/No Credit or letter grade option.) Six lecture and three lab hours per week for eight weeks. Recommended Preparation: ENGL 844 or 400 (or appropriate skill level indicated by ESL placement tests and other measures).* A maintenance and/or advancement course designed specifically for new and continuing ESL students. Practice in academic writing from short informal pieces to formal expository essays based on the analysis of complex texts. (To increase competency, may be taken twice for a maximum of 7 units.) (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.)

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 20th Centuries and of various aspects of literary criticism. Reading, discussion, and writing of 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 writing of 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, writing of 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, writing of 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 writing of 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 writing of 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 writing of critical papers. (Recommended 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 writing of critical papers. (Recommended for English majors.) (CSU/UC) (CAN ENGL 10)

240 Latino Literature (3) *Three lecture hours per week. Prerequisite: ENGL 110, 120, 130, or 140 or equivalent.* Study of fiction, drama, and poetry by Latino authors. Lectures, readings, discussions, and writing of critical papers. (CSU/UC)

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 writing of critical papers. (CSU/UC)

265 Asian-American Literature (3.0) *Three lecture hours per week. Prerequisite: ENGL 110, 120, 130, or 140 or equivalent with a grade of C or higher.* Survey of Asian-American writing of the 20th Century to acquaint students with the distinct literary and aesthetic qualities and the personal and cultural concerns, such as relocation and dislocation, of writers deriving from two cultures. Authors may include Chinese-, Japanese-, Filipino-, Korean-, Vietnamese-, and Indian-Americans. Materials will be presented in a variety of genres. Lectures, readings, discussions, and critical essays. (CSU/UC)

271 Irish Literature: Mythology (1.0) *Two lecture hours per week for eight weeks. Prerequisite: ENGL 110, 120, 130, or 140 or equivalent with a grade of C or higher.* Study of selected texts relating to Ireland's mythology and the role it has played in the reconstruction of the present-day Irish national identity. Lectures, discussions, readings, and writing projects. (CSU)

272 Irish Literature: Novel and Short Story (1.0) *Two lecture hours per week for eight weeks. Prerequisite: ENGL 110, 120, 130, or 140 or equivalent with a grade of C or higher.* Study of selected classic and modern novels and short stories written by Irish authors, relating to Irish times and in-

terests. Lectures, discussions, readings, and writing projects. (CSU)

273 Irish Literature: Resistance Literature (1.0) *Two lecture hours per week for eight weeks. Prerequisite: ENGL 110, 120, 130, or 140 or equivalent with a grade of C or higher.* Study of selected texts relating to Ireland's continued struggle for national independence from medieval times through the present. Lectures, discussions, readings, and writing projects. (CSU)

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)

804 Twentieth-Century Literature (3.0) *(Credit/No Credit grading.) Three lecture hours per week.* Introduction to selected fiction, poetry, and drama of the 20th Century. Lectures, discussions, readings, and optional essays.

809 Bible as Literature (3.0) *(Credit/No Credit grading.) Three lecture hours per week.* Study of selected texts from the Old and New Testaments and from the Apocrypha. Lectures, discussions, related readings, quizzes, and optional special project.

823 American Literature I (3.0) *(Credit/No Credit grading.) Three lecture hours per week.* Study of American literature from its beginning through Mark Twain. Lectures, reading, discussions, and writing of optional critical essays.

824 American Literature II (3.0) *(Credit/No Credit grading.) Three lecture hours per week.* Study of American literature since Mark Twain. Lectures, readings, discussions, and writing of optional critical essays.

830 Mythology and Folklore (3.0) *(Credit/No Credit grading.) Three lecture hours per week.* Survey of major deities and heroes, recurring mythological themes, and relationships between people and deities, especially in Greek and Roman cultures. Readings, discussions, and writing of optional critical essays.

835 Shakespeare (3.0) (*Credit/No Credit grading.*) *Three lecture hours per week.* Study of representative plays and poems, with emphasis on Shakespeare's poetic and dramatic skills and his understanding of human nature. Readings, discussions, and writing of optional critical papers.

865 Asian-American Literature (3.0) (*Credit/No Credit grading.*) *Three lecture hours per week.* Survey of Asian-American writing of the 20th Century to acquaint students with the distinct literary and aesthetic qualities and the personal and cultural concerns, such as relocation and dislocation, of writers deriving from two cultures. Authors may include Chinese-, Japanese-, Filipino-, Korean-, Vietnamese-, and Indian-Americans. Materials will be presented in a variety of genres. Lectures, readings, discussions, and writing of optional critical essays.

871 Irish Literature: Mythology (1.0) (*Credit/No Credit grading.*) *Two lecture hours per week for eight weeks.* Study of selected texts relating to Ireland's mythology and the role it has played in the recon-

struction of the present-day Irish national identity. Lectures, discussions, readings, and optional writing projects.

872 Irish Literature: Novel and Short Story (1.0) (*Credit/No Credit grading.*) *Two lecture hours per week for eight weeks.* Study of selected classic and modern novels and short stories written by Irish authors, relating to Irish times and interests. Lectures, discussions, readings, and optional writing projects.

873 Irish Literature: Resistance Literature (1.0) (*Credit/No Credit grading.*) *Two lecture hours per week for eight weeks.* Study of selected texts relating to Ireland's continued struggle for national independence from medieval times through the present. Lectures, discussions, readings, and optional writing projects.

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 con-

temporary 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)

300 Introduction to La Raza Studies (3) *(Credit/No Credit or letter grade option.) Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800; eligibility for READ 801.* Introduction to the philosophy, methodology, and structure of La Raza Studies (Chicano/Chicana, Latino/Latina studies). Analyzes the relationships between social institutions and their effects upon the La Raza individual, especially in the United States setting. (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

100 Introduction to Film (3) *Three lecture hours and one-half lab hour per week. Recommended Preparation: ENGL 800.*

Introductory survey of fundamental film techniques and styles of expression. Emphasizes film appreciation, the language of film, and analysis for full film enjoyment. Lectures, screenings, discussions, quizzes, and writing of critical papers. (CSU/UC)

101-106 Film Studies Focus (1-1-1-1-1-1) *(Credit/No Credit grading.) Total of sixteen lecture hours per one-unit module. Recommended Preparation: ENGL 800.* Introduction to specific film history topics, such as directors, genres, periods, and cultural issues. Offered in self-contained, one-unit modules. Descriptions of the specific modules offered each semester will be printed in the Schedule of Classes. Lectures, screenings, discussions, quizzes, and writing of critical papers. (CSU)

110 American Cinema (3) *(Telecourse) Recommended Preparation: ENGL 800.* Familiarizes students with the history of American Cinema, focusing on the studio system, the star system, genres, and directors. Develops film vocabulary and critical viewing skills. (CSU)

120 History of Film I (3) *Three lecture hours and one-half lab hour per week. Recommended Preparation: ENGL 800.* Chronological survey of important American and international films from 1895 to World War II. Emphasizes the evolution of film as a distinct art form and the intersection of film and society. Lectures, screenings, discussions, quizzes, and writing of critical papers. (CSU/UC)

121 History of Film II (3) *Three lecture hours and one-half lab hour per week. Recommended Preparation: ENGL 800.* Chronological survey of important American and international films from World War II to the present. Emphasizes the evolution of film as a distinct art form and the intersection of film and society. Lectures, screenings, discussions, quizzes, and writing of critical papers. (CSU/UC)

200 Advanced Film Study (3) *Three lecture hours and one-half lab hour per week. Prerequisite: FILM 100, 110, 120, or 121 or equivalent. Recommended Preparation: ENGL 800.* Further study of the evolution of the motion picture. Topics vary from semester to semester; may emphasize one or more of the following: genres, directors, stars, gender, race, national cinemas, or film and literature. Lectures, screenings, discussions, quizzes, and writing of critical papers. (May be taken three times for a maximum of 9 units.) (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*)

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)

466 Screenwriting (3) *(Three lecture hours per week.) Recommended Preparation: eligibility for ENGL 100.* Study of the craft of writing screenplays with instruction and practice in devising film ideas, developing a film premise, structuring film stories, preparing character biographies, developing scenes, creating dialogue, and preparing a professional film script. (To increase competency, may be taken twice for a maximum of 6 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 (FT1) Fire Protection Organization (3) *Three lecture hours per week.* History and philosophy of fire protection; organization of public and private fire protection services; laws and regulations affecting the fire service; basic fire chemistry and physics; and basic fire systems, fire strategy, and tactics. (CSU)

718 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 (FT2) Fire Prevention Technology (3) *Three lecture hours per week.* Provides fundamental information regarding the history and philosophy of fire protection; organization and operation of a fire prevention bureau; use of fire codes; identification and correction of fire hazards; and the relationship of fire prevention to fire safety education and detection and suppression systems. (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 (FT5) Fire Behavior and Combustion (3) *Three lecture hours per week.* Theory and fundamentals of how fires start, spread, and are controlled; an in-depth study of fire chemistry and physics, fire characteristics of materials, extinguishing agents, and fire control techniques. (CSU)

735 Fire Investigation IA (2.5) (*Credit/No Credit grading.*) *Forty lecture hours per semester.* Responsibilities of the investigator, cause and origin investigation, tech-

niques 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 1A 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 (FT4) Building Construction for Fire Protection (3) *Three lecture hours per week.* Components of building construction that relate to fire safety. The elements of construction and design of structures are shown to be key factors when inspecting buildings, preplanning fire operations, and operating at fires. Covers the development and evolution of building codes in relationship to past fires in residential, commercial, and industrial occupancies. (CSU)

745 (FT3) Fire Protection Systems and Equipment (3) *Three lecture hours per week.* Provides information relating to the features of 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 (9) *Five and one-half lecture and ten and one-half lab hours per week.* Designed for pre-service instruction in basic fire fighting knowledge and skills. Lecture and manipulative instruction in all areas of responsibility for a firefighter. (Certificate of completion will be issued by the Fire Technology Department.)

784 Firefighter Recruit Academy (10.5) *Eighty-eight lecture and two hundred sixty 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 Basic (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 Basic: Recent Advances (1.5) (*Credit/No Credit grading.*) *Twenty-four lecture and nine lab hours per semester. Prerequisite: possession of a valid EMT-1/FS Certificate.* Refresher course in preparation for EMT-1/FS 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 Basic (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.

800 Fire Service Entrance Test Preparation (3) *Three lecture hours per week.* Covers models for written examinations and oral interviews for firefighter positions; mathematical concepts relating to fire service; reading and writing skills for resumes and applications; physical requirements; test preparation; and career opportunities.

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Fire Technology– Public Safety Training Courses (FTPS)

In-service training courses offered for fire personnel through the Public Safety Training Consortium. Course numbers will be assigned as needed, and Consortium titles will be used. The curriculum for each course offered adheres to POST (Peace Officers Standards and Training) and Title V requirements.

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 American Sign Language, Arabic, Chinese, French, German, Italian, Japanese, 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.

Note: To be transferable to UC, French courses must be taken for letter grade.

110 Elementary French (5) (*Credit/No Credit or letter grade option.*) *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) (*Credit/No Credit or letter grade option.*) *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) (*Credit/No Credit or letter grade option.*) *Three lecture hours plus one lab hour by arrangement per week. Prerequisite: FREN 111 or equivalent 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) (*Online/Telecourse*) (*Credit/No Credit or letter grade option.*) Basic idiomatic conversation and fundamentals of grammar. Stresses oral proficiency. Viewing telelessons, 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. Stresses oral proficiency. Viewing telelessons, written assignments, and work with tapes required. (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. Viewing telelessons, written assignments, and work with tapes required. (CSU/UC*)

120 Advanced Elementary French (5) (Credit/No Credit or letter grade option.) Five lecture hours plus two lab hours by arrangement per week. Prerequisite: FREN 110 or 112 or equivalent 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) (Credit/No Credit or letter grade option.) 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) (Credit/No Credit or letter grade option.) 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) (Credit/No Credit or letter grade option.) Five lecture hours plus one lab hour by arrangement per week. Prerequisite: FREN 120 or 122 or equivalent 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) (Credit/No Credit or letter grade option.) Three lecture hours plus one-half lab hour by arrangement per week. Prerequisite: FREN 120 or 122 or equivalent 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) (Credit/No Credit or letter grade option.) Three lecture hours plus one-half lab hour by arrangement per week. Prerequisite: FREN 131 or equivalent 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) (Credit/No Credit or letter grade option.) Three lecture hours per week. Prerequisite: FREN 130 or 132 or equivalent 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) (Credit/No Credit or letter grade option.) Three lecture hours per week. Prerequisite: FREN 140 or equivalent 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) (Credit/No Credit or letter grade option.) Three lecture hours per week. Prerequisite: FREN 161 or equivalent 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) *Three lecture hours per week. 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. One or more field trips may be required. (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*)

125 History of Life (4.0) *Three lecture and three lab hours per week.* Study of the history of life on Earth from its origins 3.8 billion year ago to the present day. Examines the rock and fossil records that provide clues to the evolution, behavior, and extinction of past life forms and the changes in land distribution, climate, and environment through time. Includes two half-day field trips. (CSU/UC)

210 General Geology (4) *Three lecture and three lab hours per week.* 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. One or more field trips 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.

Note: To be transferable to UC, German courses must be taken for letter grade.

110 Elementary German (5) *(Credit/No Credit or letter grade option.) 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) *(Credit/No Credit or letter grade option.) 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) *(Credit/No Credit or letter grade option.) 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) *(Credit/No Credit or letter grade option.) 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) *(Credit/No Credit or letter grade option.) 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) *(Credit/No Credit or letter grade option.) 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) *(Credit/No Credit or letter grade option.) 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) *(Credit/No Credit or letter grade option.) 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) *(Credit/No Credit or letter grade option.) 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) *(Credit/No Credit or letter grade option.) 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)

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.)

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)

425 Modern Latin America and the Caribbean (3) (*Telecourse*) (*Credit/No Credit or letter grade option.*) *Recommended Preparation: eligibility for ENGL 800.* Examines various aspects of Latin America and the Caribbean. Provides an overview of the Pre-Columbian, Conquest, Colonial, Independence, and post-Independence periods and then develops various themes—sovereignty, race and ethnicity, role of women, revolutions and revolutionaries, religion, etc.—to give students an understanding of modern Latin America and the Caribbean. (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 landscaping of commercial offices, hotels, and shopping centers. (CSU)

326 Growing Orchids (1.0) (*Credit/No Credit grading.*) *Three lecture hours per week for six weeks.* Principles and techniques of growing orchids. Study of their history, growth habits, culture, media selection, potting techniques, diseases, pests, fertilizer requirements and propagation. Identification and culture of popular orchids used in the nursery and floral design industries. Field trips to outstanding orchid growers' greenhouses. (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, and equipment. 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)

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)

422 Designs for Entertaining (0.5) (*Credit/No Credit or letter grade option.*) *Two lecture and four lab hours per week for four weeks.* An in-depth study of creative application of floral design skills used in floral decorating for large and small events. Development of a theme, budget, and buying plan and coordination with event specialists.

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 arboriculture, 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)

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: eligibility 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.)

Human Services

100 Introduction to Human Services (3) *Three lecture hours per week.* Introductory course for students interested in a career in Human Services. Covers the history of Human Services, types and functions of Human Services agencies, careers in Human Services, skills utilized in the Human Services professions, ethics, current trends and issues, human need theory, and self-support techniques for Human Services workers. (CSU)

110 Introduction to Counseling and Interviewing (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Introduction to the basic skills and techniques of counseling and interviewing. Covers listening, responding, building trust, questioning, assessment, reflecting strengths, referral, values and ethics. Designed for professionals and paraprofessionals in Human Services positions and students preparing for a career in Human Services. (CSU)

115 Introduction to Case Management (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Introductory course to familiarize students with the basic concepts and skills of case management. Covers philosophy, ethics, concepts, assessment, documentation, record keeping, plan development, linking to community agencies, services monitoring, and an overview of benefits programs. Designed to provide students with knowledge and skills that can be applied to a variety of Human Services settings. (CSU)

120 Public Assistance and Benefits Programs (1) *Eight lecture hours per week for two weeks. Recommended Preparation: eligibility for ENGL 800.* Overview and examination of benefits awarded under state and federal assistance programs. Analyzes and evaluates TANF (Temporary Aid to Need Families), SSI and SSDI (Social Security Insurance), MediCal, Medicaid, Medicare, and foodstamps and examines their implications for self-sufficiency. Students will gain a working knowledge of the various benefit programs available to persons in need, including eligibility requirements, determination, and duration.

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.

110 Elementary Italian (5) (*Credit/No Credit or letter grade option.*) *Five lecture hours plus two lab hours by arrangement per week.* Introduction to the language for beginners: basic grammar and vocabulary, conversation, reading, and writing. Presents cultural material in short readings. (CSU/UC)

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*)

115 Beginning Italian I (3.0) (*Telecourse.*) (*Credit/No Credit or letter grade option.*) Basic Italian vocabulary and language structures studied through text, audio-cassettes, and broadcast videotapes. Equivalent to Italian 111 but without the oral component. (CSU)

116 Beginning Italian II (3.0) (*Telecourse*) (*Credit/No Credit or letter grade option.*) *Prerequisite: ITAL 115 or equivalent with Credit or a grade of C or higher.* Continuation of a televised, entry-level course that introduces basic Italian vocabulary and language structures and enhances appreciation of Italian culture. Workbook and audiotape exercises focus on reading, writing, and listening comprehension. This course parallels Italian 112 but without the oral component. (CSU)

117 Advanced Beginning Italian I (3.0) (*Telecourse*) (*Credit/No Credit or letter grade option.*) *Prerequisite: ITAL 116 or equivalent with Credit or a grade of C or higher.* First half of a televised second-semester course that continues to introduce basic Italian vocabulary and language structures and enhances appreciation of Italian culture. Workbook and audio tape exercises focus on reading, writing, and listening comprehension. This course parallels Italian 121 but without the oral component. (CSU)

118 Advanced Beginning Italian II (3.0) (*Telecourse*) (*Credit/No Credit or letter grade option.*) *Prerequisite: ITAL 117 or equivalent with Credit or a grade of C or higher.* Second half of a televised second-semester course that completes the introduction to basic Italian vocabulary and language structures and enhances appreciation of Italian culture. Workbook and audio tape exercises focus on reading, writing, and listening comprehension. This course parallels Italian 122 but without the oral component. (CSU)

120 Advanced Elementary Italian (5) (*Credit/No Credit or letter grade option.*) *Five lecture hours per week. Prerequisite: ITAL 110 or 112 or equivalent with Credit or a grade of C or higher.* Continuation of work begun in Italian 110. Emphasizes reading, writing, speaking, and introduction to Italian culture. (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)

801 Conversational Italian I, Elementary (2) (*Credit/No Credit grading.*) *Three lecture hours per week.* A practical course in the Italian language. Intensive drill in the patterns and idioms of daily speech 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 requirements at California State Universities or at the University of California.)

802 Conversational Italian II, Advanced (2) (*Credit/No Credit grading.*) *Three lecture hours per week. Prerequisite: ITAL 801 or equivalent with Credit.* Further work in conversation following the model of Italian 801. (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.)

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.

Note: To be transferable to UC, Japanese courses must be taken for letter grade.

110 Elementary Japanese (5) (*Credit/No Credit or letter grade option.*) *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) (*Credit/No Credit or letter grade option.*) *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) (*Credit/No Credit or letter grade option.*) *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) (*Credit/No Credit or letter grade option.*) *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) (*Credit/No Credit or letter grade option.*) *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) (*Credit/No Credit or letter grade option.*) *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.)

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

(*See English and Literature*)

Machine Tool Technology

200 Introduction to Machine Tool Technology (2) *One lecture hour and three lab hours per week.* Survey course for the manufacturing technology student who re-

quires 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)

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)

750 Machine Tool Theory and Practice I (3) *Two lecture and four lab hours plus three lab hours per week by arrangement. Recommended Preparation: MTT 701.* Instruction in basic machine tool procedures. This course is equivalent to MTT 200. Designed for engineering and drafting students and machinist trainers. 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 plus one lab hour by arrangement 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 plus one lab hour by arrangement 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)

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; plus one lab hour by arrangement 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 BUS. 810 (BUS. 110 at Cañada College) or MATH 811 at one of the SMCCCD colleges need not take the Math Placement Test.* Study of elementary algebra through quadratic equations.

111 Elementary Algebra I (FIRST HALF) (3) *Three lecture hours plus one lab hour by arrangement 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 BUS. 810 (BUS. 110 at Cañada College) or MATH 811 at one of the SMCCCD colleges 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 plus one lab hour by arrangement per week. Prerequisite: MATH 111 or an equivalent course at a postsecondary institution.* 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; plus one lab hour by arrangement per week. Prerequisite: MATH 110 or 112 or an equivalent course at a postsecondary institution OR equivalent skill level (as measured by a satisfactory score on Math Placement Test Two in combination with a high school 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; plus one lab hour by arrangement per week. Prerequisite: MATH 110 or 112 or an equivalent course at a postsecondary institution OR equivalent skill level (as measured by a satisfactory score on Math Placement Test Two in combination with a high school 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 plus one lab hour by arrangement per week. Prerequisite: MATH 110 or 112 or an equivalent course at a postsecondary institution OR equivalent skill level (as measured by a satisfactory score on Math Placement Test Two in combination with a high school 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 plus one lab hour by arrangement per week. Prerequisite: MATH 122 or an equivalent course at a postsecondary institution.* Covers the second half of the semester's work of MATH 120.

125 Elementary Finite Mathematics (3) *Three lecture hours plus one lab hour by arrangement per week. Prerequisite: MATH 120 or 123 or an equivalent course at a*

postsecondary institution OR equivalent skill level (as measured by a satisfactory score on Math Placement Test Three in combination with a high school 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 plus one lab hour by arrangement per week. Prerequisites: MATH 115 and MATH 120 or 123 or equivalent courses at a postsecondary institution OR equivalent skill level (as measured by a satisfactory score on Math Placement Test Three in combination with high school courses 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; plus one lab hour by arrangement per week. Prerequisite: MATH 120 or 123 or an equivalent course at a postsecondary institution OR equivalent skill level (as measured by a satisfactory score on Math Placement Test Three in combination with a high school 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 non-parametric methods. (CSU/UC*) (CAN STAT 2)

222 Precalculus (5) *Day: five lecture hours per week; evening: six lecture hours per week; plus one lab hour by arrangement per week. Prerequisite: MATH 130 or an equivalent course at a postsecondary institution OR equivalent skill level (as measured by a satisfactory score on Math Placement Test Three in combination with a high school 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 plus one lab hour by arrangement per week for eight weeks. Prerequisite: MATH 130 or an equivalent course at a postsecondary institution OR equivalent skill level (as measured by a satisfactory score on Math Placement Test Three in combination with a high school 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; plus one lab hour by arrangement per week. Prerequisites: MATH 120 or 123 or an equivalent course at a postsecondary institution OR equivalent skill level (as measured by a satisfactory score on Math Placement Test Three in combination with a high school 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 plus one lab hour by arrangement per week. Prerequisites: MATH 130 and 241 or the equivalent courses at a postsecondary institution.* 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; plus one lab hour by arrangement per week. Prerequisites: completion of Precalculus/College Algebra or the equivalent courses at a postsecondary institution OR equivalent skill level (as measured by a satisfactory score on Math Placement Test Four in combination with a high school 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; plus one lab hour by arrangement per week. Prerequisite: MATH 251 or an equivalent course at a postsecondary institution.* 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; plus one lab hour by arrangement per week. Prerequisite: MATH 252 or an equivalent course at a postsecondary institution.* 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)

270 Linear Algebra (3) *Three lecture hours plus one lab hour by arrangement per week. Prerequisite: MATH 252 or an equivalent course at a postsecondary institution.* 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 plus one lab hour by arrangement per week. Prerequisite: MATH 253 or an equivalent course at a postsecondary institution. 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.

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 315 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.* Exami-

nation 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. Prerequisite: 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. Prerequisite: 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 lecture 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)

101 Meteorology Laboratory (1.0) *Three lab hours per week. Prerequisite: concurrent enrollment in or completion of METE 100 with a grade of C or higher.* Optional introductory meteorology laboratory course designed to be taken concurrently with or following Meteorology 100. Use of instruments, charts, and the Internet to observe and interpret weather phenomena. May require one or more field trips. (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)

Multimedia/Web Design

110 Introduction to Multimedia/Web (2.0) (*Credit/No Credit or letter grade option.*) *Three lecture and four lab hours per week for eight weeks. Recommended Preparation: basic knowledge of personal computers, including use of Macintosh and/or Windows operating systems and use of the*

mouse. Overview of the expanding multimedia industry, showing how multimedia is the “glue” that binds together diverse means of communication. Emphasizes building a strong foundation in multimedia/web and sampling areas of specialization. Students create their own multimedia/web projects and learn about the various aspects of this industry in preparation for pursuing their chosen areas of emphasis. (CSU)

120 Ideation (0.5) (*Credit/No Credit or letter grade option.*) *Two lecture hours per week for four weeks.* Covers techniques and attitudes to apply to the creative problem-solving process to enable students to be more creative conceptualizers. (CSU)

125 Ways of Seeing (0.5) (*Credit/No Credit or letter grade option.*) *Three lecture hours per week for three weeks.* Basic principles of perception, light, color, composition and visual awareness. Includes development of skills necessary to critically analyze and evaluate photographic imagery. (CSU)

130 Writing for Multimedia/Web (1.0) (*Credit/No Credit or letter grade option.*) *Two lecture hours per week for eight weeks.* *Recommended Preparation: MULT 110.* Covers the importance of target audience; how writing for multimedia/web differs from other writing; writing for and to visuals and the screen; current constraints of multimedia/web; basic instructional design. Also includes strategy documents (project proposals), content outlines, flow charts, storyboards, and multimedia scripts as well as the ethics of writing for multimedia/web. (CSU)

140 The Business of Multimedia/Web (1.0) (*Credit/No Credit or letter grade option.*) *Two lecture hours per week for eight weeks.* *Recommended Preparation: MULT 110.* Covers some of the behind-the-scenes business knowledge needed to succeed in the field: multimedia culture; organizational skills; accomplishing objectives; importance of communicating the client’s message; multimedia/web as a business tool; work ethic; working as a free-lancer; entrepreneurial skills; raising funds, including venture capital and grants; having a viable profit margin; contract work; and the importance of on-going education. (CSU)

150 Designing for Multimedia/Web (1.0) (*Credit/No Credit or letter grade option.*) *Two lecture hours per week for eight weeks.* *Recommended Preparation: MULT 110.* Introductory course covering design basics

(voice, color, shapes, patterns, typography, creating emphasis) as well as ways in which interactivity, file compression, download speed, and other factors have an impact on design for multimedia/web. (CSU)

155 Interface and Navigation Design (1.0) (*Credit/No Credit or letter grade option.*) *Two lecture hours per week for eight weeks.* *Prerequisite: MULT 150. Recommended Preparation: MULT 110.* Covers the art of creating intuitive interface designs and navigation schemes so the user will be engaged and will want to explore the multimedia project or website further. (CSU)

220 Preparing Audio for CDs and/or Intranets (1.0) (*Credit/No Credit or letter grade option.*) *Two lecture and six lab hours per week for four weeks.* *Recommended Preparation: MULT 110.* Covers process for digitizing an analog audio signal and sampling techniques. Includes a variety of software and hardware suitable for digitizing an audio signal and explores file formats and file size management. (CSU)

225 Preparing Video for CDs and/or Intranets (1.0) (*Credit/No Credit or letter grade option.*) *Two lecture and six lab hours per week for four weeks.* *Recommended Preparation: MULT 110.* Covers process for digitizing a video signal and compression/decompression technologies. Includes a variety of software and hardware configurations that can be used to digitize video and explores file formats and CODECs. (CSU)

230 Streaming Audio and Video (0.5) (*Credit/No Credit or letter grade option.*) *Two lecture hours per week for four weeks.* *Prerequisite: MULT 220 and 225.* Covers the latest technologies and implementation strategies for streaming audio and video through the internet. (CSU)

240 Beginning Animation: Director I (3.0) (*Credit/No Credit or letter grade option.*) *One lecture and six lab hours per week.* *Recommended Preparation: MULT 110.* Introduction to Director—a fundamental animation and, to some extent, authoring tool for multimedia. Covers animation, effects, color palettes, color cycling, transitions, film loops, tempos and delays, linking and branching, interactivity, Lingo, and creating a “projector.” (CSU)

245 Shockwave (1.0) (*Credit/No Credit or letter grade option.*) *One lecture and three lab hours per week for eight weeks.* *Recommended Preparation: MULT 110 and 240 or equivalent.* Introduction to Shockwave, a

fundamental tool for making multimedia projects available for use on the internet and for adding animation and interactivity to websites. (CSU)

250 Website Design (2.0) (*Credit/No Credit or letter grade option.*) *One lecture and three lab hours per week.* *Prerequisite: MULT 150; ART 365 or TA&G 140 or 240.* *Recommended Preparation: MULT 110.* Covers designing compelling websites to capture users; applying design theory to solve website problems; working within and around the limitations of the web; web-safe palettes; file size, file compression, and download time issues; and website realities. Students will design and build websites. (CSU)

260 Producing for Multimedia/Web (2.0) (*Credit/No Credit or letter grade option.*) *Four lecture hours per week for eight weeks.* *Recommended Preparation: MULT 110.* Preparation for the role of producer. Includes the production process, big picture managing skills, timelines, budgets, personnel resources, staff and crew issues, time and project management, client management, problem solving, importance of communication, importance of teamwork, and team members’ roles. (CSU)

311-320 Hot Multimedia/Web Tools (0.5-4.0) (*Credit/No Credit or letter grade option.*) *Hours vary.* *Prerequisite: Varies by particular class.* Because the software tools

of multimedia, including the Internet, change so quickly these courses will help keep the student up-to-date. Descriptions of the specific tools offered each semester will be printed in the Schedule of Classes. (CSU)

350 Internship in Multimedia/Web (1.0-4.0) (*Credit/No Credit or letter grade option.*) *Hours vary. Recommended Preparation: MULT 110.* Supervised work experience in the field of multimedia, including the internet, or allied agencies. Work must be related to a career goal or major and 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 student must have new learning opportunities in order to repeat. (CSU)

370 Studio/Portfolio One (3.0) (*Credit/No Credit or letter grade option.*) *One lecture hour and six lab hours per week. Prerequisite: MULT 110 and 150; MULT 130 or 140; ART 365 or MULT 240 or both TA&G 130/131 or both TA&G 140/141; or equivalent. Recommended Preparation: MULT 260.* Working in teams and using the design, tool, and business skills developed in previous courses, students involve themselves in the production process and create real-world, interactive multimedia/web projects for their portfolios. Emphasizes communication, problem solving, and creativity. (CSU)

380 Studio/Portfolio Two (3.0) (*Credit/No Credit or letter grade option.*) *One lecture hour and six lab hours per week. Prerequisite: MULT 370. Recommended Preparation: MULT 260.* This culminating portfolio laboratory class is "hands-on." Building on the skills and abilities gained in MULT 370 and again working in teams, students immerse themselves in the real-world production process and create interactive multimedia/web projects for their portfolios. Emphasizes creativity, communication, teamwork, and problem solving. (CSU)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Selected Topics (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.) (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 or no 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 (3.0) *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 repeated for a maximum of 12 units of credit, 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. Attendance at one or more off-campus concerts may be required. (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)

292 Sound Creation: Sampling and Synthesis (3) *(Credit/No Credit or letter grade option.) Two lecture and three lab hours per week. Prerequisite: MUS. 290 or equivalent.* Creating original sounds for composition, live performance, and sound effects. Practical musical instruction on fully utilizing the technical and artistic potential of samplers and synthesizers. (CSU)

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. Designed only for those students who have no previous piano playing experience. (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 practice room hours per week.* Elementary vocal problems analyzed and corrected through exercises and songs. (CSU/UC*)

402 Voice II (1) *Three lab hours plus two practice room 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 practice room 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 practice room 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*)

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 CSM Singers (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 may be 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*)

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 in Music (CAIM). 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 plus one lab hour by arrangement per week for eight to nine weeks. Prerequisite: Admission to the A.S. Degree Nursing Program. Corequisite: concurrent enrollment in NURS 215. 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 plus one lab hour by arrangement per week for eight to nine weeks. Prerequisite: NURS 211. Corequisite: concurrent enrollment in NURS 215. 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. Extra supplies may be required. (Fall only.)

221 Pediatric Nursing (4.5) Five lecture and twelve lab hours plus one lab hour by arrangement 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. Corequisite: concurrent enrollment in NURS 225. 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 plus one lab hour by arrangement for eight to nine weeks. Prerequisites: NURS 221. Corequisite: concurrent enrollment in NURS 225. 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. Extra supplies may be required. (Spring only.)

231 Psychiatric Nursing (5) Five lecture and fifteen lab hours plus one lab hour by arrangement per week for eight to nine weeks. Prerequisite: NURS 222. Corequisite: concurrent enrollment in NURS 235. 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 plus one lab hour by arrangement per week for eight to nine weeks. Prerequisite: NURS 231. Corequisite: concurrent enrollment in NURS 235. 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. Extra supplies may be required. (Fall only.)

241 Advanced Medical/Surgical Nursing (5) Five lecture and fifteen lab hours plus one lab hour by arrangement per week for eight to nine weeks. Prerequisite: NURS 232. Corequisite: concurrent enrollment in NURS 245. 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 plus one lab hour by arrangement per week for eight to nine weeks. Prerequisite: NURS 241. Corequisite: concurrent enrollment in NURS 245.* 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. Extra supplies may be required. (Spring only.)

641 Cooperative Education (1-4) (See first page of Description of Courses section.) (CSU)

666 Careers 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)

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 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.)

Office Administration

(See Business)

Paleontology

(See Geology 125)

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)

175 History of Western Philosophy: 16th-18th Century (3) *(Credit/No Credit or letter grade option.) Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Covers the history of

Western Philosophy from Descartes and the rise of the scientific revolution through Kant. Includes Erasmus, Bacon, Pascal, Hobbes, Spinoza, Locke, Leibniz, Berkeley, Hume, and Rousseau. (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)

300 Introduction to World Religions (3) (*Credit/No Credit or letter grade option.*) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 100.* Survey of major contemporary Eastern and Western religions. Includes theories, practices, history, and leaders of each religion studied. Emphasizes the similarities behind the differences between various religions. (CSU/UC)

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 context 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 plus one lab hour by arrangement per week.* Offered primarily for students with physical limitations. Disability verifi-

cation recommended. Students practice techniques to increase range of motion and strengthen weakened extremities 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 plus one lab hour by arrangement 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 plus one lab hour by arrangement 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*)

150 Workplace Wellness (1.0) *Two lecture hours per week for eight weeks. Recommended Corequisite: concurrent enrollment in one or more Workplace Wellness activity courses.* Concepts, attitudes, and skills necessary for the student to develop a self-directed and self-monitored fitness program and prepare to re-enter the workplace. Includes nutrition, principles of physical fitness, stress management, and a survey of resources on fitness. Part of the Workplace Wellness Program to help prepare students to return to the workplace. (CSU)

155 Adapted Back Care (.5-1.0) (*Credit/No Credit grading.*) *Two to four lab hours plus one lab hour by arrangement per week. Recommended Preparation: recent physical examination and disability verification.* Designed for students who would like to improve their back health, this course includes structure of the healthy spine, common deviations and back injuries, and proper body mechanics. Students participate in flexibility training and a progressive exercise program to build musculature and correct posture and learn how to perform daily living activities while maintaining back health. Part of the Workplace Wellness Program to help prepare students to return to the workplace. (CSU)

160 Advanced Adapted Weight Training (.5-1.0) (*Credit/No Credit grading.*) *Two to four lab hours plus one lab hour by arrangement per week. Recommended Preparation: recent physical examination and disability verification.* Designed for students who have already completed an adapted weight training class and are able to perform lifts independently. Includes various weight lifting techniques and exercises to enhance the student's physical preparation for the workplace. An individualized exercise program includes: circuit weight training, whole body movement lifts, set training, single muscle isolation and stabilization lifts, lower back and stomach isolation exercises, and stretching techniques. Part of the Workplace Wellness Program to help prepare students to return to the workplace. (CSU)

165 Adapted Lifelong Fitness (.5-1.0) (*Credit/No Credit grading.*) *Two to four lab hours plus one lab hour by arrangement per week. Recommended Preparation: recent physical examination and disability verification.* Designed to increase the student's personal fitness through a comprehensive stretching and walking program. Includes proper stretching techniques, proper training principles, correct walking techniques, and heart rate monitoring to assist the student in developing a realistic cardiovascular program in preparation for the workplace. Upon completion of the course, the student will be able to successfully design and implement a cardiovascular training program. Part of the Workplace Wellness Program to help prepare students to return to the workplace. (CSU)

170 Adapted Fitness-Evening (1.0) (*Credit/No Credit grading.*) *Four lab hours plus one lab hour by arrangement per week. Recommended Preparation: recent physical examination and disability verification.* Designed to address the individual exercise needs of the student who is preparing to re-enter the workplace. Includes development of an overall fitness routine involving all aspects of body conditioning: cardiovascular training, muscular strength and endurance training, and flexibility and balance exercises. Part of the Workplace Wellness Program to help prepare students to return to the workplace. (CSU)

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 (.5-1) *One and one-half to three 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 plus one lab hour by arrangement 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 plus one lab hour by arrangement 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 plus one lab hour by arrangement 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 plus one lab hour by arrangement 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*)

Fitness (FITN)

100 Adult Fitness (.5) *One and one-half lab hours plus one lab hour by arrangement 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 plus one lab hour by arrangement 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 plus one lab hour by arrangement 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 plus one lab hour by arrangement 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*)

205 Weight Conditioning (1-1.5) *Two to three lab hours plus one lab hour by arrangement per week. Recommended Preparation: recent physical examination.* Individualized weight conditioning for all levels of ability using specialized machines and free weights. Instruction on safety, form, technique, and muscle development. Participation will increase muscle strength, tone, and endurance. Body composition assessment and fitness-related research support achievement of fitness goals. Most sections team taught. Coeducation class format. (To increase competency, may be taken four times.) (CSU)

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 plus one lab hour by arrangement 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 plus one lab hour by arrangement 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 plus one lab hour by arrangement 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 plus one lab hour by arrangement 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 plus one lab hour by arrangement 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 plus one lab hour by arrangement 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 plus one lab hour by arrangement 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 (1-3) *(Open entry/open exit.) Three to nine lab hours plus one lab hour by arrangement per week. Recommended Preparation: interscholastic basketball or equivalent.* A 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 plus one lab hour by arrangement 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 plus one lab hour by arrangement per week. Recommended Preparation: interscholastic softball or equivalent. A 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 plus one lab hour by arrangement 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 semester. (To increase competency, may be taken four times.) (CSU/UC*)

171 Beginning Volleyball (.5-1) One and one-half to three lab hours plus one lab hour by arrangement 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 plus one lab hour by arrangement 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 plus one lab hour by arrangement 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 Golden Gate 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 bas-

ketball 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.

Cañada	Skyline
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*)

150 Preparation for Physics (4.0) (*Credit/No Credit grading.*) *Three lecture and three lab hours per week. Prerequisite: completion of or concurrent enrollment in MATH 130 or equivalent.* Focuses on review of algebra and trigonometry required

for physics; problem solving; study skills; description of motion; and Newton’s Laws of Motion. Designed for students planning to take PHYS 210 or 250.

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. Some programs require completion of Physics 210-211-220-221.

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)

211 General Physics I - Calculus Supplement (1) *One lecture hour per week. Prerequisites: completion of or concurrent enrollment in MATH 242 or 252; completion of or concurrent enrollment in PHYS 210.*

Application of calculus to topics in Physics 210. Primarily intended for majors requiring one year of calculus-based physics. (CSU/UC)

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)

221 General Physics II - Calculus Supplement (1) *One lecture hour per week. Prerequisites: MATH 242 or 252; PHYS 211; completion of or concurrent enrollment in PHYS 220.* Application of calculus to topics in Physics 220. Primarily intended for majors requiring one year of calculus-based physics. (CSU/UC)

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. Students in other majors should consider Physics 210-211-220-221 sequence.

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)

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 1990s, 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 impinging 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/UC)

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. Prerequisite READ 802 with a grade of C or higher (or appropriate skill level indicated by the Reading Placement Test and other measures).* *Corequisite: concurrent enrollment in SOCI 100.* 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 comprehension and critical reading

skills. Recommended for transfer students. (CSU)

430 Science Reading and Study Skills for College Students (3) (*Credit/No Credit grading.*) *Three lecture hours per week. Prerequisite: READ 802 with a grade of C or higher (or appropriate skill level indicated by reading placement test or other measures).* Application of advanced reading and study skills in all sciences (including biology, chemistry, computer science, and physics). Emphasizes solving word problems, developing scientific terminology, increasing speed, preparing notes, taking tests, thinking critically, and reading graphs/charts. Materials include college text chapters and contemporary scientific issues from magazines and journals as academic preparation for college science. (CSU)

440 Effective Study for California History (.5-3.0) (*Credit/No Credit grading.*) (*Open entry/open exit.*) *One-half to three lecture hours per week. Prerequisite: READ 802 with a grade of C or higher or eligibility for READ 420 as indicated by the reading placement tests and other measures.* *Corequisite: concurrent enrollment in HIST 310.* Basic principles of reading/study strategies and their application to weekly textbook assignments in California History. Develops notetaking skills, test-taking strategies, and other academic study methods as applied to History 310. (CSU)

450 Effective Study for United States History I (.5-3.0) (*Credit/No Credit grading.*) (*Open entry/open exit.*) *One-half to three lecture hours per week. Prerequisite: READ 802 with a grade of C or higher or eligibility for READ 420 as indicated by the reading placement tests and other measures.* *Corequisite: concurrent enrollment in HIST 201.* Basic principles of reading/study strategies and their application to weekly textbook assignments in United States History. Develops notetaking skills, test-taking strategies, and other academic study methods as applied to History 201. (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 Study and 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 Study Skills and College Reading (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 Academic Success Strategies and Advanced College Reading (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. Preparation for reading in academic courses such as social sciences, humanities, natural sciences, and literature. Partially satisfies English competency 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 or letter grade option.*) *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. (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 computer-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 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, 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 grading.*) *Three lecture hours plus one lab hour by arrangement per week. Recommended Preparation: credit in READ 841 (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 maximum 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: credit in READ 842 (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 en-

cumbrances, 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 presentation 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. Prerequisites: 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 and Writing (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)

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)

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)

309 Peer Education and Prevention Strategies (3) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Discussion and development of proactive peer strategies for substance abuse prevention on college campuses. Includes issues such as the physical and social effects of alcohol and other drug use, as well as eating problems, sexually transmitted diseases, and acquaintance rape. (CSU)

310 Special Population Groups in Alcohol and Other Drug Studies (3.0) *Three lecture hours per week. Recommended Preparation: eligibility for ENGL 800.* Survey of special population groups in alcohol and other drug studies (AOD) and their characteristics, particular intervention needs, and individual responses to treatment. Particular attention given to ethnic/racial, gender, age, economic, sexual orientation, and disabled issues. (CSU)

313 Alcohol and Other Drug Treatment for Incarcerated Population (3.0) *Three lecture hours per week. Prerequisite: SOSC 301, 302, 304. Recommended Preparation: eligibility for ENGL 800.* Covers philosophy, approaches, goals, objectives, lan-

guage, policies, and procedures of the Criminal Justice System and the Alcohol and Other Drug Treatment Systems to insure that drug-involved offenders receive appropriate treatment and supervision. (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; popu-

lation; 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/UC)

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.

Note: To be transferable to UC, Spanish courses must be taken for letter grade.

110 Elementary Spanish (5) (Credit/No Credit or letter grade option.) *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) (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 a higher English*

course. Covers approximately the first half of the semester's work in Spanish 110. (CSU/UC*)

112 Elementary Spanish II (3) (*Credit/No Credit or letter grade option.*) Three lecture hours plus one lab hour by arrangement per week. Prerequisite: SPAN 111 or equivalent 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*)

115 Beginning Spanish I (3) (*Telecourse*) (*Credit/No Credit or letter grade option.*)

Entry-level course that introduces basic Spanish vocabulary and language structures and enhances appreciation of worldwide Hispanic culture. Workbook and audio tape exercises focus on reading, writing, and aural comprehension. This course parallels Spanish 111 but without the oral component. (CSU)

116 Beginning Spanish II (3)

(*Telecourse*) (*Credit/No Credit or letter grade option.*) Recommended Preparation: SPAN 115. Second half of an entry-level course that introduces basic Spanish vocabulary and language structures and enhances appreciation of worldwide Hispanic culture. Workbook and audio tape exercises focus on reading, writing, and aural comprehension. This course parallels Spanish 112 but without the oral component. (CSU)

117 Advanced Beginning Spanish I (3)

(*Telecourse*) (*Credit/No Credit or letter grade option.*) Recommended Preparation: SPAN 116 or equivalent. First half of a second-semester course that continues to introduce basic Spanish vocabulary and language structures and enhances appreciation of worldwide Hispanic culture. Workbook and audio tape exercises focus on reading, writing, and aural comprehension. This course parallels Spanish 121 but without the oral component. (CSU)

118 Advanced Beginning Spanish II (3)

(*Telecourse*) (*Credit/No Credit or letter grade option.*) Recommended Preparation: SPAN 117 or equivalent. Second half of a second-semester course that completes the introduction of Spanish vocabulary and language structures traditionally taught in a first-year course, including a comprehensive overview and appreciation of worldwide Hispanic culture. Workbook and audio tape exercises focus on reading, writing, and aural comprehension. This course parallels Spanish 122 but without the oral component. (CSU)

120 Advanced Elementary Spanish (5) (*Credit/No Credit or letter grade option.*)

Five lecture hours plus two lab hours by arrangement per week. Prerequisite: SPAN 110 or 112 or equivalent 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) (*Credit/No Credit or letter grade option.*)

Three lecture hours plus one lab hour by arrangement per week. Prerequisite: SPAN 110 or 112 or equivalent 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) (*Credit/No Credit or letter grade option.*)

Three lecture hours plus one lab hour by arrangement per week. Prerequisite: SPAN 121 or equivalent 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) (*Credit/No Credit or letter grade option.*)

Five lecture hours plus one lab hour by arrangement per week. Prerequisite: SPAN 120 or 122 or equivalent 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) (*Credit/No Credit or letter grade option.*) Three lecture hours plus one lab hour by arrangement per week. Prerequisite: SPAN 120 or 122 or equivalent 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) (*Credit/No Credit or letter grade option.*) Three lecture hours plus one lab hour by arrangement per week. Prerequisite: SPAN 131 or equivalent 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) (*Credit/No Credit or letter grade option.*)

Three lecture hours per week. Prerequisite: SPAN 130 or 132 or equivalent 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) (*Credit/No Credit or letter grade option.*) *Three lecture hours per week. Prerequisite: SPAN 140 or equivalent 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) (*Credit/No Credit or letter grade option.*) *Three lecture hours per week. Prerequisite: SPAN 161 or equivalent with a grade of C or higher.* 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)

251 Hispanoamerica Contemporanea (3) *Three lecture hours per week. Prerequisites: SPAN 140 or equivalent 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 803. (This course will not fulfill the language requirements at California State Universities or at the University of California.)

805 Conversational Spanish V, Advanced (2) (*Credit/No Credit grading.*) *Three lecture hours per week. Prerequisite: SPAN 804 or equivalent with credit.* Provides an all-Spanish environment for advanced topical conversation focusing on current themes and graded readings, as well as programmed growth of topical vocabulary and increasingly complex language structures for adult-level aural and oral communication skills. (This course will not fulfill the language requirements at California State Universities or at the University of California.)

806 Conversational Spanish VI, Upper Advanced (2.0) (*Credit/No Credit grading.*) *Three lecture hours per week. Prerequisite: SPAN 805 or equivalent with Credit.* This course provides an all-Spanish environment for upper-advanced topical conversation as well as growth of topical vocabulary and increasingly complex language structures for adult-level aural/oral communication skills. (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 Communication

The Speech Communication program includes courses in public speaking, small group communication, interpersonal communication, communicating across cultures, organizational communication, 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 plus one lab hour by arrangement 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)

101 Overcoming the Fear of Public Speaking (.5) (*Credit/No Credit grading.*) *One lecture hour per week for eight weeks.* Overcome the fear of public speaking by examining its causes and practicing skills to help reduce speaking anxiety. (CSU)

111 Oral Interpretation I (3) *Three lecture hours plus one lab hour by arrangement 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 plus one lab hour by arrangement 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 plus one lab hour by arrangement 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)

140 Small Group Communication (3) *Three lecture hours plus one lab hour by arrangement per week. Recommended Preparation: eligibility for ENGL 100.* Understanding of the principles of group interaction and decision making, including study of leadership, types of authority, teamwork, and conflict resolution. Participation in discussion groups to share information, solve problems, and reach consensus. (CSU/UC)

150 Communicating Across Cultures (3)

Three lecture hours plus one lab hour by arrangement per week. Recommended Preparation: eligibility for ENGL 100. 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)

170 Organizational Communication

(3.0) *Three lecture hours plus one lab hour by arrangement per week. Recommended Preparation: eligibility for ENGL 100.* Organizational communication theory and improvement of communication skills in organizations. Emphasizes decision-making; achievement of goals; conflict management; negotiation; cross-cultural examination of organizational structure, climate, and work-related values; and diversity management in organizations. (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)

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 appropriate 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 plus one lab hour by arrangement 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 plus one lab hour by arrangement 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 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

101 Graphic Macintosh I (4) *Three lecture and three lab hours per week.* Macintosh basics; digital page makeup using QuarkXPress software. Principles of typography and design taught concurrently with the software. Extra supplies required. (CSU)

110 Typography (4) *Three lecture and three lab hours per week. Prerequisite: TA&G 101 or equivalent.* Covers anatomy of type; designing with type; choosing voice; creating emphasis and interest; creating visual hierarchies; developing and using grids; applying theory to practical typographic problems; and working form concept through presentation. Extra supplies required. (CSU)

120 Graphic Macintosh II (3) *Two lecture and two lab hours per week plus one lab hour by arrangement per week. Prerequisite: TA&G 101 or equivalent.* Instruction in the use of Adobe Illustrator software for creating full color Post Script graphics. Use of flatbed scanner. Extra supplies required. (CSU)

125 Technical Illustration (6) *Four lecture and six lab hours per week.* 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. Extra supplies required. (CSU)

130 Adobe Illustrator I (1.0) *(Credit/No Credit or letter grade option.) One lecture and one and one-half lab hours plus one and one-half lab hours by arrangement per*

week for eight weeks. Prerequisite: CIS 160 or familiarity with the Macintosh computer. Creating digital illustrations using Adobe Illustrator drawing software. Extra supplies required. (CSU)

131 Adobe Illustrator II (1.0) *(Credit/No Credit or letter grade option.) One lecture and one and one-half lab hours plus one and one-half lab hours by arrangement per week for eight weeks. Prerequisite: TA&G 130.* Covers use of Adobe Illustrator drawing software for the creation of digital illustrations, including preparing images for the Web. Extra supplies required. (CSU)

140 Adobe Photoshop I for Graphic Artists (1.5) *(Credit/No Credit or letter grade option.) Two lecture and two lab hours plus one lab hour by arrangement per week for eight weeks. Prerequisite: CIS 160 or familiarity with the Macintosh computer.* Creating digital illustrations and photographs using Adobe Photoshop and a scanner. Designed for the graphic arts generalist. Extra supplies required. (CSU)

141 Adobe Photoshop II for Graphic Artists (1.5) *(Credit/No Credit or letter grade option.) Two lecture and two lab hours plus one lab hour by arrangement per week for eight weeks. Prerequisite: TA&G 140 or equivalent.* Covers use of Adobe Photoshop for image creation and manipulation, including preparing images for print and for the web. Extra supplies required. (CSU)

170 QuarkXPress I (1.0) *(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 of QuarkXPress page layout software for design and printing of documents. Extra supplies required. (CSU)

171 QuarkXPress II (1.0) *(Credit/No Credit or letter grade option.) Total of twelve lecture and twelve lab hours. Prerequisite: TA&G 170 or equivalent.* Work with illustrations and photos, irregular text wraps, style sheets, and master pages in QuarkXPress. Use and apply color, edit, print, and prepare files for a service bureau. Extra supplies required. (CSU)

180 Desktop Typography I (2) *(Credit/No Credit or letter grade option.) Four lecture hours per week for eight weeks. Prerequisite: either prior experience with page layout software and access to a computer workstation equipped with that software,*

fonts, and printer OR prior experience with QuarkXPress software and the ability to work independently in the CSM Macintosh lab. Enables the computer-literate non-designer or novice designer to use their page layout software to create more effective and attractive designs. Emphasizes designing with display (large) type. Practical exercises cover type terms, structure, categories, contrasts, voice, emphasis, mixing, optical refinements, and the process of giving words visual vitality. (CSU)

185 Desktop Typography II (2) *(Credit/No Credit or letter grade option.) Four lecture hours per week for eight weeks. Prerequisite: either prior experience with page layout software and access to a computer workstation equipped with that software, fonts, and printer OR prior experience with QuarkXPress software and the ability to work independently in the CSM Macintosh lab.* Enables the computer-literate non-designer or novice designer to create more effective and attractive designs. Emphasizes using text type effectively in page design. Practical exercises cover typeface, size, and leading selection; enhancing readability; creating typographic hierarchies; proper selection and use of grids; visual punctuation; working with photos and graphics; and converting skimmers into readers. (CSU)

220 Graphic Design (4) *Three lecture and three lab hours per week. Recommended Preparation: TA&G 110.* Principles of design, typography, and symbolism. Evolution of a design; the graphic problem-solving process from concept through presentation. Comping techniques. Extra supplies required. (CSU)

235 Print Fundamentals (4) *Four lecture hours per week.* Comprehensive exploration and examination of the print production cycle, from concept through bindery. Particularly emphasizes the role of the production artist. (CSU)

240 Graphic Macintosh III (4) *Three lecture and three lab hours per week. Prerequisite: TA&G 101 or equivalent.* Use of Adobe Photoshop software in conjunction with QuarkXPress. Scanning. Extra supplies required. (CSU)

250 Graphic Macintosh IV (4) *Three lecture and three lab hours per week. Prerequisite: TA&G 101, 120, 240 or equivalent.* Digital mechanicals, digital prepress, digital color, and color reproduction. Working with service bureaus, proofing. 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 consultation with and under the direction of the instructor. Emphasizes development of a marketable portfolio. Extra 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)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Trades

Prerequisite: membership in a local union served by the College of San Mateo as their Local Educational Agency, or successful completion of a five-year apprenticeship program.

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 plus one lab hour by arrangement 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 plus one lab hour by arrangement 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)

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 plus one lab hour by arrangement per week.* Introduction to welding for the non-welding major. Covers theory and practice of oxyacetylene 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 plus one lab hour by arrangement 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-Alberto, Sylvia (1989)

Counselor
A.A., College of San Mateo
B.A., M.S., Hayward State University

Akinsete, Adrienne (1992)

Associate Professor, Business
Administration
B.S., M.S., San Jose State University

Alunan, Juanita (1995)

Assistant Professor, English
B.A., M.A., M.A., San Francisco State
University

Ambrose, Rick (1985)

Professor, Accounting
B.A., Western Kentucky University
M.B.A., Golden Gate University

Atkins, Gregg T. (1975)

Coordinator, Library, Tutorial, and
Learning Center Services
A.A., College of San Mateo
B.A., M.L.S., University of California,
Berkeley

Avakian, John S. (1980)

Director, ED>Net Multimedia/
Entertainment Initiative
B.A., M.A., California State University,
Los Angeles

Bartels, Sharon L. (1997)

Health Services Coordinator
B.S.N., California State University,
Sacramento
M.P.A., University of San Francisco

Behrens, Audrey (1997)

Assistant Professor, Dental Assisting
A.A., College of San Mateo
B.A., Saint Mary's College

Beliz, Tania (1990)

Professor, Biology
B.S., University of Panama
Ph.D., University of California,
Berkeley

Bell, James K. (1963)

Professor, English
B.A., University of California,
Santa Barbara
M.A., University of California, Berkeley

Berry, Fredrick J. (1968)

Professor, Music
B.M., M.M., Southern Illinois
University

Black, Janet (1988)

Professor, Art
B.S., M.S. Miami University
M.A., Ohio State University
Ph.D., Boston University

Brannock, Patricia A. (1983)

Professor, Business
B.A., M.A., San Francisco State
University

Brixen, Roy E. (1980)

Professor, Electronics
B.A., M.A., San Jose State University

Brown, Kathryn (1977)

Counselor
A.A., College of San Mateo
B.A., San Francisco State University
M.S., San Diego State University

Brown, Ronald (1995)

Associate Professor, Computer and
Information Science
B.A., Rutgers College

Bucher, Michael C. (1969)

Professor, Biology
B.A., M.A., University of California,
Los Angeles

Burke, Michael C. (1976)

Professor, Mathematics
B.A., University of California,
Santa Barbara
M.A., Stanford University
M.A., University of Oregon

Burns, Elaine M. (1990)

Coordinator, Career Center and Re-entry
Program
A.A., College of San Mateo
B.S., College of Notre Dame
M.A., Santa Clara University

Candamil, Blanca M. (1988)

Professor, Spanish
B.A., San Francisco State University
M.A., University of California, Berkeley

Castillo, Richard P. (1969)

Professor, Spanish
B.A., University of California, Berkeley
M.A., Middlebury College, Vermont

Castro, Patricia (1991)

Associate Professor, Cosmetology
A.A., Cañada College

Caviel, Arnett B. (1970)

Counselor
B.A., M.A., San Francisco State
University

Celesia, Jon A. (1997)

Assistant Professor, Physics
B.A., University of California, Berkeley
M.S., San Francisco State University

Chaw, Gladys (1973)

Librarian
A.A., City College of San Francisco
B.A., California State University,
Sacramento
M.L.S., University of California,
Berkeley

Chetlen, Martin (1997)

Assistant Professor, Computer and
Information Science
B.E.E., City College of the City University of
New York
M.C.S., Texas A&M University

Chowenhill, Dean F. (1967)

Professor, Drafting, Counselor
A.A., Los Angeles Harbor College
B.A., M.A., San Jose State University

Church, Gary (1991)

Associate Professor, Mathematics
B.A., M.S., San Jose State University

Claire, Michael E. (1988)

Dean, Technology Division
B.S., M.B.A., California State
University, Hayward

Clay, Michael E. (1983)

Professor, Chemistry
B.A., University of West Virginia
Ph.D., Arizona State University

Clifford, James (1997)

Assistant Professor, Psychology
A.A., Cañada College
B.A., B.A., M.A., San Francisco State
University
Ph.D., University of California,
Santa Cruz

Combs, Durella (1997)

Assistant Professor, Welding, Machine
Tool Technology
A.S., College of San Mateo
A.A., Cañada College
B.A., San Francisco State University

Comerford, Sandra Stefani (1990)

Professor, English
B.A., Lone Mountain College
M.A., San Francisco State University

Cooke, Stuart T. (1964)

Professor, History, Humanities
A.B., Lafayette College
M.A., University of Pennsylvania
Ph.D., University of Denver

Crandall, William (1991)

Professor, Business
A.B., A.M., Stanford University

Crawford, Zelte (1969)

Professor, Ethnic Studies, Humanities,
Sociology
B.S., M.A., Western Michigan
University
Ph.D., Stanford University

- Cullen, James A.** (1985)
Professor, Manufacturing and Industrial
Technology
A.S., Oakland City College
- Cutler, Merle** (1981)
Professor, English
B.A., M.A., San Francisco State
University
- Danielson, David** (1990)
Associate Professor, Philosophy
A.A., De Anza College
B.A., San Jose State University
M.A., The Claremont Graduate School
- Datson, Brad** (1983)
Professor, Business
B.A., Sonoma State University
- Davis, Gregory** (1966)
Professor, Political Science, Humanities
A.B., A.M., Stanford University
- Davis, W. Lloyd** (1981)
Professor, Mathematics
B.A., Harvard University
M.S., Stanford University
- De Gregorio, Michael L.** (1957)
Professor, Chemistry, Physics;
Counselor
A.B., A.M., San Francisco State
University
- Deline, Charlotte** (1995)
Associate Professor, Chemistry
B.A., University of California, Irvine
M.S., University of California,
Los Angeles
M.S., Cornell University
- Denney, Clifford O.** (1975)
Professor, Chemistry
B.S., Portland State University
M.Ed., M.S., Ph.D., Oregon State
University
- Dickey, William J.** (1966)
Professor, Physical Education/Athletics
B.S., Utah State
M.A., St. Mary's College
- Dilley, Gary** (1988)
Dean, Physical Education/Athletics
A.A., College of San Mateo
B.A., University of California,
Santa Barbara
M.P.A., College of Notre Dame
- Diskin, Thomas R.** (1981)
Professor, Electronics
B.S., California Polytechnic State
University, San Luis Obispo
M.S., Oregon State University
- Dorsett, Darrel** (1984)
Professor, Business
B.S., Illinois State University
M.B.A., College of Notre Dame
- Estes, Susan J.** (1988)
Dean, Language Arts Division
A.B., Monmouth College
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
- 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
- Garrin, Richard** (1997)
Assistant Professor, Music
B.M., DePaul University
M.M., University of Cincinnati,
College--Conservatory of Music
- 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
B.S., Brooklyn College
M.A., University of California, Berkeley
Ph.D., Union Graduate School
- Gomes, Lyle** (1984)
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
- Grant, Georgia** (1997)
Assistant Professor, Computer and
Information Science
B.S.Ed., State College at Boston
M.B.A., Golden Gate University
- 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
- Hand, Linda** (1993)
Associate Professor, Geology
B.S., Boise State University
M.S., Texas A & M University
- Hare, Joan** (1997)
DSP & S Specialist
A.A., College of San Mateo
B.A., M.A. College of Notre Dame
- Harrison, Kenneth W.** (1969)
Professor, Music
B.M., University of Southern California
M.A., San Francisco State College
- Hasson, Robert L.** (1984)
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)
Professor, Adapted Physical Education
B.S., M.A., San Jose State University

Hom, Melvin (1991)
Professor, Mathematics
B.A., B.S., M.A., M.A., San Francisco State University

Howard, Dee L. (1996)
Counselor
B.S., Indiana University of Pennsylvania
M.Ed., Bowling Green State University

Innis, James E. (1967)
Professor, Health Science
A.B., M.A., University of Northern Colorado

Isaef, Tatiana (1991)
Professor, Nursing
B.S., M.S., University of California, San Francisco
Ed.D., University of San Francisco

James, Katherine (1997)
Assistant Professor, English
B.A., William Smith College
M.A., San Francisco State University

Janatpour, Mohsen (1983)
Professor, Astronomy, Mathematics, Physics
B.A., M.S., San Jose State University

Janssen, William A. (1965)
Professor, Business
A.A., College of San Mateo
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

Kavinoky, Richard (1996)
Assistant Professor, Mathematics
B.A., Sonoma State University
M.A., University of California, Davis
Ph.D., University of California, Davis

Kelly, Shirley J. (1992)
Vice President, Instruction
B.A., Mills College
M.S. University of San Francisco
Ed.D., University of San Francisco

Kennedy, Cathleen A. (1988)
Professor, Computer and Information Science
B.A., San Jose State University
M.B.A., San Francisco State University

Kennedy, Kenneth D. (1967)
Professor, Earth Systems, 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)
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)
Associate Professor, Speech Communication
B.A., M.A., San Diego State University

Kroencke, Mikael (1987)
Professor, Engineering
B.S., M.S., University of California, Davis
M.A., San Francisco State University

Laderman, David (1995)
Associate 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)
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)
Associate Professor, Speech Communication
B.A., Shandong University, People's Republic of China
M.A., Indiana University

Lohmann, Richard (1997)
Assistant Professor, Photography
B.A., M.A., San Francisco State University

MacDonald, Lorne (1968)
Professor, Electronics, Engineering
B.S., Pacific State University

Mangan, George A. (1982)
Professor, Broadcast and Electronic Media
A.A., College of San Mateo
B.A., California State University, Chico
M.A., Macquarie University, Sydney, Australia

Marron, Jamie (1991)
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

Martin, Theresa (1995)
Associate 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)
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

McGinnis, Thurman (1995)
Associate Professor, Administration of
Justice
A.A., College of San Mateo
B.A., M.A. Hayward State University

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

Morehouse, Steven N. (1977)
Counselor, High School Relations
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)
Professor, Speech Communication
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

Murphy, Madeleine (1997)
Assistant Professor, English
B.A., King's College, Cambridge
M. Litt., Edinburgh University

Musgrave, Diane W. (1970)
Professor, English, German
A.B., A.M., Stanford University
M.A., San Francisco State University

Nakata, Rory (1990)
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,
Multimedia/Web Design
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

Owens, Larry (1990)
Head Football Coach
B.S., California State University, Fullerton
M.A., St. Mary's College

Ozogomonyan, 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 Communication
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)
Director, Center for Teaching and Learning
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)
Associate 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, Earth Systems, 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

Scholer, Linda K. (1984)
Professor, English
B.A., North Central College
M.Ed., University of Illinois

Schulze, Frances (1990)
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

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

Sobel, Amy (1997)
Assistant Professor, English
B.A., Stanford University
M.S., San Francisco State University

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, Human Services, Psychology,
Psychological Services
B.A., M.A., San Francisco State
University

Svanevik, Michael (1969)
Professor, History
B.S., M.A., University of San Francisco

Tilmann, Martha (1989)
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)
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

Upshaw, 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

White, David A. (1996)
Dean, Counseling/Advising and
Matriculation
B.S., M.S., Eastern Illinois University

Williams, Douglas (1997)
Head Baseball Coach
A.A., College of San Mateo
B.A., University of California,
Santa Barbara
M.A., St. Mary's College

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

Wiltberger, Arlene (1996)
Psychological Services
B.A., University of Redlands
M.A., Cornell University

Yoshimura, Yoneo (1978)
Counselor
B.A., M.S., San Francisco State
University

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

Robert D. Anderson (1997)
Physics

George Angerbauer (1984)
Electronics Technology,
Counselor

Jeanne Angier (1996)
English

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

Elizabeth L. Bassi (1998)
Dental Assisting

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

George E. Bramlett (1993)
Dean, Technology Division

Robert A. Brauns (1979)
Play Production

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

Peter Chroman (1996)
Anthropology, Sociology

Amerigo T. Ciani (1975)
Librarian

Fred J. Clark (1974)
Physics

Rosalee Clarke (1996)
Mathematics

Roger W. C. Clemens (1981)
Life Science

J. Kyle Clinkscales (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

Louis De Freitas (1995)
Welding

Dr. George S. Dehnel (1987)
Biology, Health Science

Charles M. Devonshire (1983)
Psychology

Richard C. Donner (1998)
Physical Education

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

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
- Anne M. Grubbs** (1974)
Chairperson, Health
Occupations Division
- Dr. H. Sanford Gum** (1984)
Drafting
- Joe C. Hagerty** (1983)
Director, Health and Service
Careers Division
- Jennie Halualani** (1995)
Health Services
- 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
- 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
- Rex J. Joslin** (1996)
Biology
- Dr. John E. Karl, Jr.** (1993)
Anatomy, Physiology
- Dr. Walter M. Kaufmann** (1990)
Sociology, Psychology
- Robert Kellejian** (1992)
Electronics
- 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
- Dr. Doris H. Linder** (1989)
History
- Arlys K. Lokken** (1988)
Nursing
- Raymond Lorenzato** (1984)
Art
- Marcia Mahood** (1996)
Business, Counselor
- Jack Markus** (1996)
Aeronautics
- R. Galen Marshall** (1996)
Music
- 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
- Howard C. Monroe** (1996)
Anthropology, Biology,
Botany
- Douglas B. Montgomery** (1989)
Broadcasting Arts
- Dr. John A. Montgomery** (1977)
Business Administration
- Philip D. Morse** (1981)
Director, Special Services
- Ernest L. Multhaup** (1996)
Engineering, Counselor
- Jean B. Multhaup** (1996)
Dental Assisting
- Robert C. Newell** (1992)
Electronics
- John L. Noce** (1992)
Physical Education
- Daniel C. Odum** (1989)
Broadcasting Arts
- Robert A. Olson** (1988)
Speech
- William H. Owen** (1996)
Manufacturing & Industrial
Technology
- Peter H. Owens** (1994)
Chemistry
- Robert F. Paresa** (1993)
Administration of Justice
- Zoia V. Petelin** (1974)
Cosmetology
- Betty C. Pex** (1990)
English

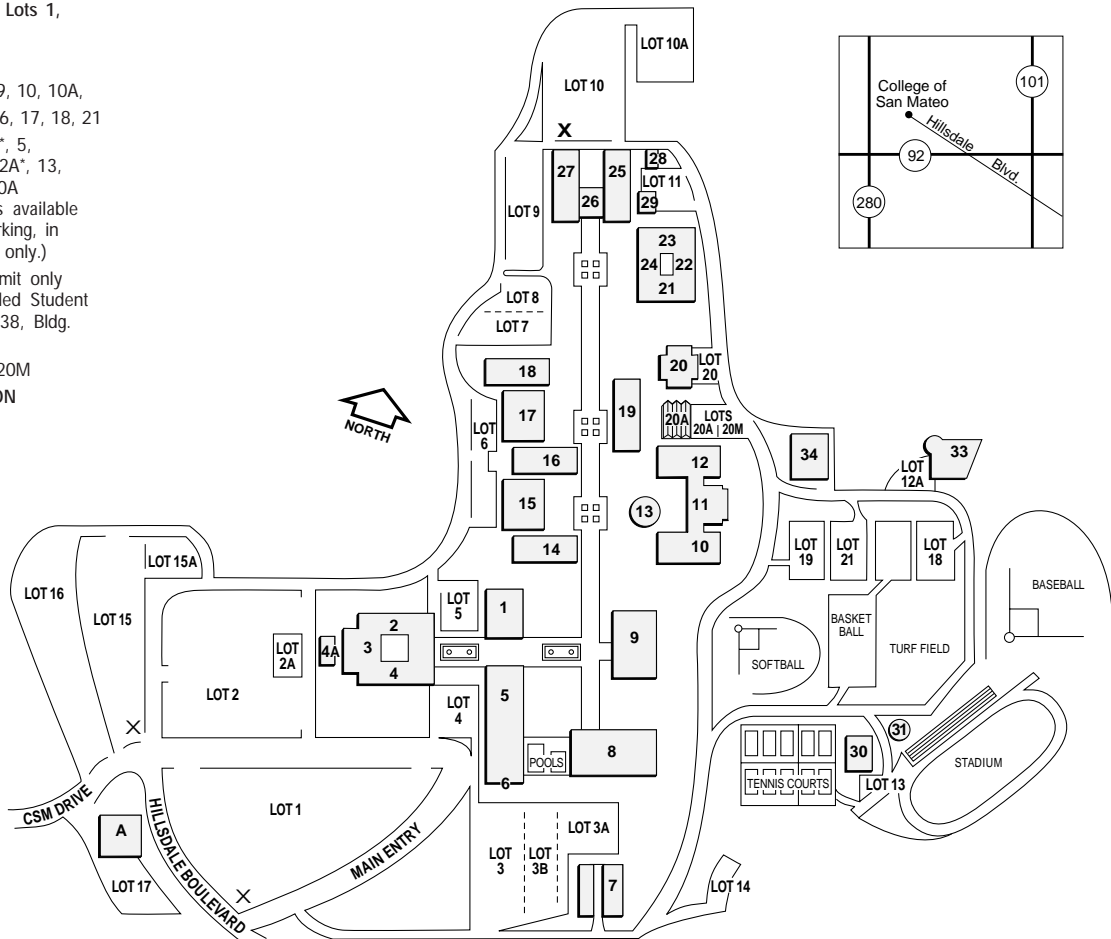
- Richard S. Phipps** (1984)
Political Science, Career and
Personal Development,
Counselor
- Wilson G. Pinney** (1986)
Director, Language Arts
- Donald T. Porter** (1992)
Philosophy, Humanities
- Dolores I. Price** (1985)
Physical Education
- Joe A. Price** (1994)
Art
- Dr. Philip G. Prindle** (1992)
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
- Richard W. Rohrbacher**
(1987)
Speech, English, Broadcasting
Arts
- Samuel S. Rolph** (1979)
Play Production
- Jacquelyn Rose** (1993)
Coordinator of Services for
the Physically Disabled
- Robert D. Rush** (1995)
Physical Education
- Dr. Rosa I. Sausjord** (1983)
Spanish
- David Savidge** (1983)
English
- Dr. Lloyd O. Saxton** (1987)
Psychology
- Edward G. Schoenstein**
(1996)
Technical Art & Graphics
- Edwin A. Schwartz** (1993)
Psychology
- Stanley R. Scott** (1988)
Drafting Technology
- Dr. Robert L. Shapiro**
(1983)
Electronics Technology
- Caroline R. Silva** (1996)
Physical Education,
Counselor
- Dr. Francis A. Smart** (1975)
Business Administration
- Robert W. Smith** (1997)
Mathematics, Humanities
- 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
- Jack Thur** (1996)
Physical Education
- 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
- David D. White** (1980)
English
- Gladys L. White** (1960)
Business
- Agnes Williams** (1996)
Cosmetology
- 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
- Dr. Frank H. Young** (1996)
Mathematics
- William H. Zempel** (1990)
Meteorology, Physics
- Christe P. Zones** (1992)
Geology

**Parking by Permit
Only During Class Hours**

- ONE-DAY PERMITS: 75¢ per day – Permit Machine Locations Indicated by X Lots 1, 10, 15
 - VISITOR PARKING: Lot 3
 - STUDENT PARKING: Lots 1, 2, 3B, 9, 10, 10A, 14, 15, 15A, 16, 17, 18, 21
 - STAFF PARKING: Lots 2A, 3A, 4*, 5, 6, 7, 8*, 11, 12A*, 13, 17, 19, 20*, 20A
(*Indicates lots available for student parking, in evening hours only.)
 - HANDICAPPED PARKING: By special permit only (contact Disabled Student Center 574-6438, Bldg. 16-151)
 - MOTORCYCLE PARKING: Lots 3, 7, 11, 20M
- PLEASE NOTE SPECIAL RESTRICTIONS ON PARKING LOT SIGNS.

Building:

1. Administration
2. Music
3. Theater, Broadcasting Arts
4. Art
- 4A. Ceramics/Sculpture
5. Student Center
Associated Students Office
Bookstore
Cafeteria
Café International
Career Development Center
Cooperative Education
Student Activities Office
Student Employment
Transfer Center
6. Museum
7. Maintenance
8. Gymnasium
9. Library & 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
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
34. Temporary Building
A. District Administrative Offices
3401 CSM Drive



Parking Regulations

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 for students enrolling in telecourses, off-campus, or weekend classes. Student parking permits are available for \$20 for the fall and spring semesters and \$10 for the summer session, and may be purchased during registration or at the Office of Admissions and Records. One-day permits (75¢) for all student parking lots are available in the Security Office in Building 1, Second Floor, and may also be purchased from vending machines in Lots 1, 10, and 15. For information regarding the availability of other short-term permits, contact the Security Office.

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 regulations for special events. Parking regulations are enforced at all times in staff lots and other restricted areas.

Parking spaces are available on a first-come, first-served basis. Therefore, 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 the parking facilities is at the user's risk.

Public Transit

SamTrans has three routes (40R, 43N and 90H) that serve the CSM campus throughout the day. All route 43N buses have wheelchair lifts and also serve students attending evening classes. Routing information is available by calling 1-800-660-4BUS.

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